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COMPREHENSIVE REPORT
Report Date:07/17/2020

Facility Information

RBLC ID:	OH-0379 (final)	**Date Determination**	
		Last Updated:	06/19/2019
Corporate/Company Name:	PETMIN USA INCORPORATED	**Permit Number:**	P0125024
Facility Name:	PETMIN USA INCORPORATED	**Permit Date:**	02/06/2019 (actual)
Facility Contact:	PALMIRA FARINHA (216)479-6876 PALMIRA@PETMIN.CO.ZA	**FRS Number:**	Not Found
Facility Description:	Merchant Pig Iron Production	**SIC Code:**	3312
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	331111
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	ASHTABULA		
Facility State:	OH		
Facility ZIP Code:	44004		

Permit Issued By: OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name)
MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov

Permit Notes: Initial PTI to convert iron ore pellets to merchant pig iron, including the installation of a process gas heater, electric arc furnace, startup boiler, black start generator, emergency generators, ladle preheaters, quenching & wastewater treatment, material handling and roadways.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Nitrogen Oxides (NOx)	427.8900 (Tons/Year)
Particulate Matter (PM)	26.5700 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Startup boiler (B001)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 15.17 MMBTU/H

Process Notes: Startup boiler, natural gas fired with maximum heat input of 15.17 MMBtu/hr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1130 LB/H SEE NOTES.
Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1130 LB/H SEE NOTES.
Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e

Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1784.0000 LB/H
Emission Limit 2: 7814.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.6340 LB/H
Emission Limit 2: 2.7800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0418 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Low-NOX burners, good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE

Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Plant Roadways (F001)
Process Type: 99.150 (Unpaved Roads)
Primary Fuel:
Throughput: 4195.00 MI/YR
Process Notes: Unpaved plant roadways and parking areas

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2100 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (B) Use of wet suppression and commercial dust suppressants. Develop and implement a site-specific work practice plan designed as described to minimize or eliminate fugitive dust emissions.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0200 T/YR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Use of wet suppression and commercial dust suppressants. Develop and implement a site-specific work practice plan designed as described to minimize or eliminate fugitive dust emissions.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (B) Use of wet suppression and commercial dust suppressants. Develop and implement a site-specific work practice plan designed as described to minimize or eliminate fugitive dust emissions.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: There shall be no visible particulate matter emissions from any unpaved roadways and parking areas except for a period of time not to exceed thirteen (13) minutes during any 60-minute observation period.

Process/Pollutant Information

PROCESS NAME: Process gas heater (P001)

Process Type: 12.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 218.90 MMBTU/H

Process Notes: Process gas preheater, natural gas, indirect fired with maximum heat input of 218.9 MMBtu/hr, emissions are vented to a stack.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.6300 LB/H SEE NOTES.

Emission Limit 2: 7.1400 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.6300 LB/H SEE NOTES.

Emission Limit 2: 7.1400 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 14.0100 LB/H

Emission Limit 2: 61.3600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0640 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Low NOX burners, use of natural gas and good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 25830.2000 LB/H

Emission Limit 2: 113136.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Black Start Generator (P007)

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 158.00 HP

Process Notes: Black start generator, 158 HP diesel engine.

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.2200 X10-3 LB/H

Emission Limit 2: 2.6100 X10-4 T/YR

Standard Emission: 0.0150 G/BHP-H

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Tier IV engine Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.2200 X10-3 LB/H

Emission Limit 2: 2.6100 X10-4 T/YR

Standard Emission: 0.0150 G/BHP-H

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Tier IV engine Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.1040 LB/H
Emission Limit 2: 5.2000 X10-3 T/YR
Standard Emission: 0.3000 G/BHP-H
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Tier IV engine Tier IV NSPS standards certified by engine manufacturer.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Tier IV engine Tier IV NSPS standards certified by engine manufacturer.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 181.7000 LB/H
Emission Limit 2: 9.0900 T/YR
Standard Emission: 522.1000 G/BHP-H
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Tier IV engine Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Quenching & wastewater treatment (P008)
Process Type: 81.900 (Other Ferrous Metal Industry Processes)
Primary Fuel:
Throughput: 0
Process Notes: Quenching & wastewater treatment, equipped with a flare.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0257 LB/H SEE NOTES.

Emission Limit 2: 0.1130 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0257 LB/H SEE NOTES.

Emission Limit 2: 0.1130 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.2350 LB/H
Emission Limit 2: 1.0300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 405.7200 LB/H
Emission Limit 2: 1777.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Electric Arc Furnace (EAF) (P901)

Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel:

Throughput: 0

Process Notes: Electric Arc Furnace, including smelting, tapping, pouring, and casting.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0740 LB/T OF MERCHANT PIG IRON (MPI) PRODUCED

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM10/PM2.5 emissions.

Est. % Efficiency: 99.900

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0061 LB/T OF MERCHANT PIG IRON (MPI) PRODUCED

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM10/PM2.5 emissions.

Est. % Efficiency: 99.900

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 1.4000 LB/T OF MERCHANT PIG IRON (MPI) PRODUCED

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Direct Evacuation Control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 186.4100 LB/T OF MERCHANT PIG IRON (MPI) PRODUCED

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 3.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM10/PM2.5 emissions.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Visible emissions of fugitive dust from this emissions unit shall not exceed six (6) percent opacity as a 6-minute average. Visible particulate emissions from any stack serving this emissions unit shall not exceed three (3) percent opacity as a 6-minute average.

Process/Pollutant Information

PROCESS NAME: Material Handling (P902)

Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel:

Throughput: 788000.00 T/YR

Process Notes: Raw materials handling, including screening and transfer via conveyor system.

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Outdoor material handling operations: covered conveyors and transfer points. Indoor material handling operations at the screen building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5. Indoor material handling operations at the EAF building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Outdoor material handling operations: 0.87 ton/year of fugitive PM10. Indoor material handling operations at the screen building: PM10 emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations. Indoor material handling operations at the EAF building: PM10 emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations.

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Outdoor material handling operations: covered conveyors and transfer points. Indoor material handling operations at the screen building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5. Indoor material handling operations at the EAF building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Outdoor material handling operations: 0.25 ton/year of fugitive PM2.5. Indoor material handling operations at the screen building: PM2.5 emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations. Indoor material handling operations at the EAF building: PM2.5 emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (A) Outdoor material handling operations: covered conveyors and transfer points. Indoor material handling operations at the screen building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5. Indoor material handling operations at the EAF building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Visible emissions of fugitive dust from this emissions unit shall not exceed twenty (20) percent opacity as a three-minute average. Visible particulate emissions from any stack serving this emissions unit shall not exceed twenty (20) percent opacity as a six-minute average, except as provided by the rule.

Process/Pollutant Information

PROCESS NAME: Emergency Generators (P005 and P006)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 3131.00 HP

Process Notes: Two identical Emergency generators, 3131 HP diesel engines. Throughputs and limits are for one generator, except as noted.

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 LB/H

Emission Limit 2: 0.0100 T/YR

Standard Emission: 0.0220 G/BHP-H

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Tier IV engine Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 LB/H

Emission Limit 2: 0.0100 T/YR
Standard Emission: 0.0220 G/BHP-H
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Tier IV engine Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Tier IV engine Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SIP: 20 percent opacity as a 6-minute average, except as specified by rule. NSPS: 20% opacity during the acceleration mode, 15% opacity during the lugging mode, and 50% opacity during the peaks in either the acceleration or lugging modes

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.4500 LB/H
Emission Limit 2: 0.1700 T/YR
Standard Emission: 0.5000 G/BHP-H
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Tier IV engine Tier IV NSPS standards certified by engine manufacturer.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS: 4.8 grams NOx + NMHC/bhp-hr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 3632.0000 LB/H
Emission Limit 2: 181.6000 T/YR
Standard Emission: 526.6000 G/BHP-H
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Tier IV engine Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Ladle Preheaters (P002, P003 and P004)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 15.00 MMBTU/H

Process Notes: Three identical Ladle dryers / preheaters, natural gas fired with maximum heat input of 15.00 MMBtu/hr, emissions are vented to the EAF baghouse. Throughputs and limits are for one preheater, except as noted.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1120 LB/H
Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1120 LB/H
Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 2.1200 LB/H
Emission Limit 2: 9.2900 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1410 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1764.0000 LB/H
Emission Limit 2: 7726.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	IL-0130 (final)	**Date Determination Last Updated:**	04/16/2020
Corporate/Company Name:	JACKSON GENERATION, LLC	**Permit Number:**	17040013
Facility Name:	JACKSON ENERGY CENTER	**Permit Date:**	12/31/2018 (actual)
Facility Contact:	JAMES KIEFER 847-908-2833 JKEIFER@POWERUSA.COM	**FRS Number:**	Not Found
Facility Description:	The proposed facility is designed to generate baseload power. It will consist of two combined-cycle generating units, each with a combustion turbine and associated heat recovery steam generator (HRSG). The turbines would only burn natural gas. Other units include an auxiliary boiler, fuel heater, emergency engines, natural gas piping and components, circuit breakers and roadways	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	WILL		
Facility State:	IL		
Facility ZIP Code:	60421		
Permit Issued By:	ILLINOIS EPA, BUREAU OF AIR (Agency Name) MR. RAY PILAPIL(Agency Contact) (217) 782-2113 ray.pilapil@illinois.gov		
Permit Notes:	Additional pollutants: Sulfuric Acid Mist: 48 tons/year; GHG as CO2e: 4,752,085 tons/year		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	226.0000 (Tons/Year)
Nitrogen Oxides (NOx)	294.0000 (Tons/Year)
Particulate Matter (PM)	107.0000 (Tons/Year)
Sulfur Oxides (SOx)	33.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	86.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Combined-Cycle Combustion Turbine

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural Gas

Throughput: 3864.00 mmBtu/hr

Process Notes: Combined-cycle combustion turbines with heat recovery steam generator (HRSG). Turbines will have inlet evaporative cooling systems to cool inlet air during warm weather to increase power output.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMV 3-UNIT OPERATING HOURS @ 15% O2

Emission Limit 2: 2.0000 PPMV 1-UNIT OPERATING HOUR @ 15% O2

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER

Other Applicable Requirements:

Control Method: (A) Selective Catalytic Reduction (SCR) and low-NOx technology (dry low-NOx combustion technology)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is applicable for first 36 months of operation. Emission Limit 2 is applicable beginning 36 months after commissioning of turbines. Pounds/hour limits without duct burner are: 30.5 (normal operation), 180.3 (startup/shutdown/commissioning) and 91.5 (tuning). Pounds/hour limits with duct burner are: 33.9 (normal operation, 33.9 (startup/shutdown/commissioning) and 91.5 (tuning). All pounds/hour limits for normal operation apply on a 3-hour average. Pounds/hour limits for startup/shutdown/commissioning and tuning apply on a 1-hour average. See also Condition 2.1.6(a)(iv) of the issued permit.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.0000 PPMV 3 OPERATING HOUR AVERAGE @ 15% O2

Emission Limit 2: 211.5000 PPMV 3 OPERATING HOUR AVERAGE @ 15% O2

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limits 1 is applicable when operating with duct burner. Emission Limit 2 is applicable without the duct burner, after 36 months from initial operation. Pounds/hour limit without duct burner is 30.5, 3-hour average. Pounds/hour limit with duct burner is 33,9, 3-hour average. Emission Limits 1 and 2 and pounds/hour limits do not apply during startup/shutdown/commissioning and tuning. Pounds/hour limit for startup/shutdown/commissioning is 483.5. Pounds/hour limit for tuning is 239. Pounds/hour limit for period of very low load is 20.6

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0026 LB/MMBTU 3-HR BLOCK AVERAGE

Emission Limit 2: 0.0042 LB/MMBTU 3-HR BLOCK AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is applicable to PM. Emission Limit 2 is applicable to PM10/PM2.5. For PM, pounds/hour emission limits for startup/shutdown/commissioning are 11.5 (without duct burner) and 12.3 (with duct burner). For PM10/PM2.5, pounds/hour emission limits for startup/shutdown/commissioning are 12.4 (without duct burner) and 19.8 (with duct burner)

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 5.0000 POUNDS/HOUR 3-HR BLOCK AVG

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 4733910.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Equipment design and proper operation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: CO2 emissions of each turbine shall not exceed 1,000 lb/MWh of gross energy output, or, alternatively, 1,030 lb/MWh of net energy output on a 12-month rolling average basis.

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural Gas
Throughput: 96.00 mmBtu/hr
Process Notes: The auxiliary boiler is used on an intermittent basis (up to 2,000 hours/year) to produce intermediate pressure steam for heating the heat recovery steam generators (HRSGs) and steam turbines

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0100 LB/MMBTU 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements:
Control Method: (B) Ultra low-NOx burners and flue gas recirculation air preheater, automated combustion management systems, automated water blowdown, good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0370 LB/MMBTU 3-HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU 3-HOUR AVERAGE
Emission Limit 2: 0.0019 LB/MMBTUD 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission Limit 1 applies to PM10/PM2.5. Emission Limit 2 applies to PM.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.1000 POUNDS/HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 11250.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Fuel Heater

Process Type: 19.600 (Misc. Boilers, Furnaces, Heaters)

Primary Fuel: Natural Gas

Throughput: 13.00 mmBtu/hour

Process Notes: Indirectly heats the natural gas fuel for the combustion turbines. This natural gas must be heated to counteract the cooling the cooling that occurs when the pressure of the gas is reduced.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0110 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (A) Low-NOx combustion technology
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0800 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission Limit 1 applies for PM, PM10 and PM2.5

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Cond. Test Mthd 013B
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0140 POUNDS/HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 6700.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Firewater Pump Engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Ultra-Low Sulfur Diesel
Throughput: 420.00 horsepower
Process Notes: One engine will power the pump in the firewater system. The fuel must meet the requirements of 40 CFR 80.510(b) pursuant to 40 CFR 60.4207(b).

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 4.0000 G/KW-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: LAER

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS Subpart IIII limit of 4.0 g/kW-hr is LAER

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 3.5000 G/KW-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS Subpart IIII limit of 3.5 g/kW-hr is BACT

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 G/KW-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS Subpart IIII emission limit of 0.20 g/kW-hr is BACT. This limit applies to PM/PM10/PM2.5

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 241.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 applies for firewater pump engine and emergency engine

Process/Pollutant Information

PROCESS NAME: Emergency Engine

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Ultra-Low Sulfur Diesel

Throughput: 1500.00 kW

Process Notes: One large emergency engine-generator at the plant; one small emergency engine-generator at the switchyard. Fuel must meet the requirements at 40 CFR 80.510(b) pursuant to 40 CFR 60.4207(b)

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 6.4000 G/KW-HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII limit of 6.4 g/kW-hr is LAER

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-HR
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII limit of 3.5 g/kW-hr is BACT

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII limit of 0.20 g/kW-hr is BACT

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 225.0000 TONS/YEAR
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Applies as combination of emergency engine and fire pump engine

Process/Pollutant Information

PROCESS NAME: Natural Gas Piping and Components
Process Type: 50.001 (Oil and Gas Field Services)
Primary Fuel:
Throughput: 0
Process Notes: Methane may leak from components, such as flanges and valves

POLLUTANT NAME: Methane
CAS Number: 74-82-8
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)
Emission Limit 1: 4.3000 TONS/YEAR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Leak Detection and Repair Program (LDAR), use of "leakless" components.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Use 40 CFR 60 Subpart VVa methods. A leak is a methane concentration of 2000 ppm or more

Process/Pollutant Information

PROCESS NAME: Circuit Breakers

Process Type: 99.999 (Other Miscellaneous Sources)

Primary Fuel:

Throughput: 0

Process Notes: Electric switchgear includes circuit breakers that uses gaseous sulfur hexafluoride (SF6) as a dielectric or insulating material. Emissions may result from SF6 leaks.

POLLUTANT NAME: Sulfur Hexafluoride

CAS Number: 2551-62-4

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 0.5000 PERCENT LEAK RATE CALENDAR YEAR AVERAGE

Emission Limit 2: 10.0000 POUNDS/YEAR 12-MONTH ROLLING AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Compliance with limits demonstrated using methods in 40 CFR 98 Subpart DD.

Process/Pollutant Information

PROCESS NAME: Roadways

Process Type: 99.140 (Paved Roads)

Primary Fuel:

Throughput: 0

Process Notes: Roadways that serve trucks delivering bulk materials, e.g., deionized water for the combustion turbines or selective catalytic reduction (SCR) reagent.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 10.0000 PERCENT OPACITY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Paving required for roads used by trucks that transport bulk materials.

Facility Information

RBLC ID:	AR-0155 (final)	**Date Determination Last Updated:**	06/19/2019
Corporate/Company Name:	BIG RIVER STEEL LLC	**Permit Number:**	2035-AOP-R2
Facility Name:	BIG RIVER STEEL LLC	**Permit Date:**	11/07/2018 (actual)
Facility Contact:	LENORE TRAMMELL 8708193031	**FRS Number:**	110056033849
Facility Description:	THE FACILITY WILL CONSIST OF TWO ELECTRIC ARC FURNACES TO MELT SCRAP IRON AND STEEL, LADLE METALLURGY FURNACES (LMF) TO ADJUST THE CHEMISTRY, A RH DEGASSER AND BOILER FOR FURTHER REFINEMENT, AND CASTERS.	**SIC Code:**	3312
Permit Type:	C: Modify process at existing facility	**NAICS Code:**	331111
Permit URL:	https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/Air/2305-AOP-R2.pdf		

EPA Region:	6	**COUNTRY:**	USA
Facility County:	MISSISSIPPI		
Facility State:	AR		
Facility ZIP Code:	72370		
Permit Issued By:	ARKANSAS DEPT OF ENVIRONMENTAL QUALITY (Agency Name) MR. THOMAS RHEAUME(Agency Contact) (501) 682-0762 rheaume@adeq.state.ar.us		
Permit Notes:			

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	-7.7000 (Tons/Year)
Nitrogen Oxides (NOx)	-8.8000 (Tons/Year)
Particulate Matter (PM)	6.6000 (Tons/Year)
Sulfur Oxides (SOx)	0.4000 (Tons/Year)
Volatile Organic Compounds (VOC)	0.5000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	BOILER, VACUUM DEGASSER
Process Type:	13.290 (Other Liquid Fuel & Liquid Fuel Mixtures)
Primary Fuel:	NATURAL GAS
Throughput:	88.70 MMBTU/HR
Process Notes:	

POLLUTANT NAME:	Particulate matter, filterable (FPM)
CAS Number:	PM
Test Method:	Unspecified
Pollutant Group(s):	(Particulate Matter (PM))
Emission Limit 1:	9.3800 X10^-4 LB/MMBTU
Emission Limit 2:	
Standard Emission:	

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 9.3800 X10^-4 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 9.3800 X10^-4 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1: 5.0000 %
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 5.8800 X10^-4 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0054 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0824 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0350 LB/MMBTU 3 HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE LOW NOX BURNERS
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide
CAS Number: 124-38-9
Test Method: Unspecified
Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)
Emission Limit 1: 117.0000 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES MINIMUM BOILER EFFICIENCY 75%
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Methane
CAS Number: 74-82-8
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)
Emission Limit 1: 0.0022 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES MINIMUM BOILER EFFICIENCY 75%
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrous Oxide (N2O)
CAS Number: 10024-97-2
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0002 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES MINIMUM BOILER EFFICIENCY 75%
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: SMALL HEATERS AND DRYERS SN-05 THROUGH SN-11, SN-16, AND SN-17
Process Type: 17.230 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: NATURAL GAS
Throughput: 0
Process Notes: RH VESSEL PREHEATER STATION, VESSEL TOP PART DRYER, RH VESSEL NOZZLE DRYER RH DEGASSER BURNER/LANCE LADLE PREHEATERS LADLE DRYOUT STATION VERTICAL LADLE HOLDING STATION TUNDISH PREHEATERS #1 THROUGH #2

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified

Pollutant Group(s):
Emission Limit 1: 5.0000 %
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Oxides (SOx)
CAS Number: 7446
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 5.8800 X10^-4 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0054 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0824 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0950 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) LOW NOX BURNERS COMBUSTION OF CLEAN FUEL GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide
CAS Number: 124-38-9
Test Method: Unspecified
Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)
Emission Limit 1: 117.0000 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Methane
CAS Number: 74-82-8
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)
Emission Limit 1: 0.0022 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrous Oxide (N2O)
CAS Number: 10024-97-2
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0002 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: BOILER, PICKLE LINE

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: NATURAL GAS

Throughput: 53.70 MMBTU/HR

Process Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0019 LB/MMBTU

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0019 LB/MMBTU

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0019 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1: 5.0000 %
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Oxides (SOx)
CAS Number: 7446
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 5.8800 X10^-4 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0054 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0824 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0350 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) LOW NOX BURNERS COMBUSTION OF CLEAN FUEL GOOD COMBUSTION PRACTICES
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide
CAS Number: 124-38-9
Test Method: Unspecified
Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)
Emission Limit 1: 117.0000 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES MINIMUM BOILER EFFICIENCY 75%
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Methane
CAS Number: 74-82-8
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)
Emission Limit 1: 0.0022 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES MINIMUM BOILER EFFICIENCY 75%
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrous Oxide (N2O)
CAS Number: 10024-97-2
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0002 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES MINIMUM BOILER EFFICIENCY 75%
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: BOILER SN-26, GALVANIZING LINE
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: NATURAL GAS
Throughput: 53.70 MMBTU/HR
Process Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 6.8000 X10^-4 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 6.8000 X10^-4 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 6.8000 X10^-4 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1: 5.0000 %
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Oxides (SOx)
CAS Number: 7446
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 5.8800 X10^-4 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0540 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0824 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0350 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) LOW NOX BURNERS COMBUSTION OF CLEAN FUEL GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide
CAS Number: 124-38-9
Test Method: Unspecified
Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)

Emission Limit 1: 117.0000 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES MINIMUM BOILER EFFICIENCY 75%
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Methane
CAS Number: 74-82-8
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)
Emission Limit 1: 0.0022 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES MINIMUM BOILER EFFICIENCY 75%
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrous Oxide (N2O)
CAS Number: 10024-97-2
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0002 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES MINIMUM BOILER EFFICIENCY 75%
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: PREHEATER, GALVANIZING LINE SN-28
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: NATURAL GAS
Throughput: 78.20 MMBTU/HR
Process Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0012 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0012 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0012 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1: 5.0000 %
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Oxides (SOx)
CAS Number: 7446
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 5.8800 X10^-4 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0054 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0824 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0350 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) SCR, LOW NOX BURNERS, AND COMBUSTION OF CLEAN FUEL AND GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide
CAS Number: 124-38-9
Test Method: Unspecified
Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)
Emission Limit 1: 117.0000 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Methane
CAS Number: 74-82-8
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)
Emission Limit 1: 0.0022 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrous Oxide (N2O)
CAS Number: 10024-97-2
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0002 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: FURNACES SN-39, ANNEALING
Process Type: 81.290 (Other Steel Manufacturing Processes)
Primary Fuel: NATURAL GAS
Throughput: 85.15 MMBTU/HR
Process Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):

Emission Limit 1: 5.0000 %
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Oxides (SOx)
CAS Number: 7446
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 5.8800 X10^-4 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0054 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0824 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) COMBUSTION OF NATURAL GAS AND GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.1000 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) LOW NOX BURNERS COMBUSTION OF CLEAN FUEL GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide
CAS Number: 124-38-9
Test Method: Unspecified
Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)
Emission Limit 1: 117.0000 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Methane
CAS Number: 74-82-8
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)

Emission Limit 1: 0.0022 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrous Oxide (N2O)
CAS Number: 10024-97-2
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0002 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EMERGENCY GENERATORS SN-63, SN-64, SN-65
Process Type: 19.800 (Misc. Internal Combustion Engines)

Primary Fuel: DIESEL

Throughput: 0

Process Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 G/KW-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) GOOD OPERATING PRACTICES, LIMITED HOURS OF OPERATION, COMPLIANCE WITH NSPS SUBPART IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 G/KW-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) GOOD OPERATING PRACTICES, LIMITED HOURS OF OPERATION, COMPLIANCE WITH NSPS SUBPART IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES, LIMITED HOURS OF OPERATION, COMPLIANCE WITH NSPS SUBPART IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1: 20.0000 %
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES, LIMITED HOURS OF OPERATION, COMPLIANCE WITH NSPS SUBPART IIII

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0015 % SULFUR FUEL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATING PRACTICES, LIMITED HOURS OF OPERATION, COMPLIANCE WITH NSPS SUBPART IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.5500 G/KW-HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) GOOD OPERATING PRACTICES, LIMITED HOURS OF OPERATION, COMPLIANCE WITH NSPS SUBPART IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 3.5000 G/KW-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) GOOD OPERATING PRACTICES, LIMITED HOURS OF OPERATION, COMPLIANCE WITH NSPS SUBPART IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.8600 G/KW-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) GOOD OPERATING PRACTICES, LIMITED HOURS OF OPERATION, COMPLIANCE WITH NSPS SUBPART IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide

CAS Number: 124-38-9

Test Method: Unspecified

Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)

Emission Limit 1: 163.0000 LB/MMBTU

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) GOOD COMBUSTION PRACTICES

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Methane

CAS Number: 74-82-8

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)

Emission Limit 1: 0.0061 LB/MMBTU

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrous Oxide (N2O)
CAS Number: 10024-97-2
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0013 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Facility Information

RBLC ID: IL-0129 (final)
Date Determination Last Updated: 02/19/2019
Corporate/Company Name: CPV THREE RIVERS, LLC
Permit Number: 16060032
Facility Name: CPV THREE RIVERS ENERGY CENTER
Permit Date: 07/30/2018 (actual)

Facility Contact:	MIKE BRUNO 781-817-8972 MBRUNO@CPV.COM	**FRS Number:**	Not Found
Facility Description:	The proposed facility is designed to generate baseload power. It will consist of two combined-cycle generating units, each with a combustion turbine and associated heat recovery steam generator (HRSG). The turbines would burn natural gas and ultra-low sulfur diesel (ULSD) as a backup fuel. Other units include an auxiliary boiler, fuel heater, engines, natural gas piping and components, circuit breakers and roadways.	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	GRUNDY		
Facility State:	IL		
Facility ZIP Code:	60450		
Permit Issued By:	ILLINOIS EPA, BUREAU OF AIR (Agency Name) MR. RAY PILAPIL(Agency Contact) (217) 782-2113 ray.pilapil@illinois.gov		
Other Agency Contact Info:	Illinois EPA, Bureau of Air Permit Section		
Permit Notes:			

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	268.0000 (Tons/Year)
Nitrogen Oxides (NOx)	318.0000 (Tons/Year)
Particulate Matter (PM)	121.3000 (Tons/Year)
Sulfur Oxides (SOx)	36.9000 (Tons/Year)
Volatile Organic Compounds (VOC)	81.2000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Combined Cycle Combustion Turbines

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural Gas

Throughput: 3474.00 mmBtu/hr

Process Notes: Throughput of ultra-low sulfur diesel (ULSD) is 3798 mmBtu/hr. Combined cycle combustion turbines w/ heat recovery steam generator (HRSG). Turbine inlets will have inlet evaporative cooling systems to cool inlet air during warm weather to increase power output.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMV @ 15% O2 3-UNIT OPERATING HOURS

Emission Limit 2: 5.0000 PPMV @ 15% O2 3-UNIT OPERATING HOURS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: LAER

Other Applicable Requirements:

Control Method: (A) Selective catalytic reduction (SCR) and low-NOx combustion technology (dry low-NOx combustion technology for natural gas; water injection for ULSD)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is for natural gas. Emission Limit 2 is for ULSD. Emission Limits 1 & 2 are effective beginning 36 months after commissioning. Limits 1 & 2 are not applicable during startup, shutdown, tuning and commissioning. Permit limits are as follows, applicable on a per-turbine basis, 3-hr average. For natural gas: Without duct burner: 25.2 lb/hr With duct burner: 32.0 lb/hr Other periods (incl. startup/shutdown): 228 lb/hr Extended startup: 228 lb/hr Tuning: 228 lb/hr For ULSD: Normal Operation: 83.6 lb/hr Extended startup: 277 lb/hr Tuning: 277 lb/hr See also Condition 2.1.6(a)(iv) of the issued permit for operation during transition.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.0000 PPMV @ 15 % O2 3 OPERATING-HOUR, ROLLED HOURLY, AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is not applicable during periods of startup, shutdown, tuning and commissioning. Permit limits are as follows, applicable on a per-turbine basis: For natural gas: Without duct burner: 15.4 lb/hr With duct burner: 19.0 lb/hr For ULSD: 17.0 lb/hr For periods of startup, shutdown and commissioning: Extended startups using natural gas: 1522 lb/hr Commissioning and other than extended startups using natural gas: 204 lb/hr ULSD: 231 lb/hr For periods of tuning: Natural Gas: 204 lb/hr ULSD: 231 lb/hr Averaging period for the above permit limits is 3-hour average. Also see Condition 2.1.6(a)(iv) of the issued permit for operation during transitions.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0037 LB/MMBTU 3-HOUR BLOCK AVERAGE

Emission Limit 2: 0.0167 LB/MMBTU 3-HOUR BLOCK AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is for natural gas. Emission limit 2 is for ULSD. Permit limits are as follows. Averaging time for all permit limits are 3-hour block average. For natural gas: Without duct burner: 8.6 lb/hr With duct burner: 14.4 lb/hr For ULSD: 34.3 lb/hr

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0069 LB/MMBTU 3-HOUR BLOCK AVERAGE

Emission Limit 2: 0.0320 LB/MMBTU 3-HOUR BLOCK AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practice

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is for natural gas. Emission Limit 2 is for ULSD. Emission Limits 1 and 2 and permit limits address PM10 and PM2.5 together as PM10/PM2.5. Permit limits are as follows. For natural gas: With duct burner: 18.9 lb/hr Without duct burner: 11.5 lb/hr For ULSD: 65.1 lb/hr

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) No controls feasible for use of natural gas. For ULSD, use ultra-low sulfur diesel as a backup fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Permit limits are as follows. Permit limits are applicable on a 3-hour block average For natural gas, with duct burner: 2.8 lb/hr For natural gas, without duct burner: 2.3 lb/hr. For ULSD: 4.0 lb/hr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Equipment design and proper operation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Permit limit: 4,026,300 ton/yr, 12-month rolling average. See also Condition 2.1.2(h) of the issued permit.

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural Gas

Throughput: 96.00 mmBtu/hr

Process Notes: The auxiliary boiler is used on an intermittent basis (up to 4,000 hr/yr) to produce intermediate pressure steam for heating the heat recovery steam generators (HRSG) and combustion turbines.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0110 LB/MMBTU 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER

Other Applicable Requirements:

Control Method: (A) Ultra-low NOx burners and flue gas recirculation, air preheater, automated combustion management system with O2 trim system and automated water blowdown, and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are 1.1 lb/hr and 2.2 ton/yr

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0370 LB/MMBTU 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are 3.6 lb/hr and 7.2 ton/yr

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: In the issued permit, PM, Total (TPM), addresses PM, PM10 and PM2.5. Permit limits are 0.72 lb/hr and 1.44 ton/yr

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.1000 LB/HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practice

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Permit limit is 0.20 ton/yr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 22500.0000 TON/YR 12-MONTH ROLLING AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practice

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Fuel Heater
Process Type: 19.600 (Misc. Boilers, Furnaces, Heaters)
Primary Fuel: Natural Gas
Throughput: 12.80 mmBtu/hr
Process Notes: The fuel heater indirectly heats the natural gas fuel for the combustion turbines. Natural gas for the combustion turbines must be heated to counteract the cooling that occurs when the pressure of the gas is reduced.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0110 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (A) Low-NOx burners
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are 0.45 lb/hr and 2.0 ton/yr

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0800 LB/HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are 1.02 lb/hr and 4.5 ton/yr

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: The issued permit addresses TPM as PM, PM10 and PM2.5.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0140 LB/HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 6600.0000 TON/YR 12-MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency Engines

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Ultra-low sulfur diesel

Throughput: 0

Process Notes: Two emergency engine-generators. One large emergency engine-generator, 1500 kW output, will provide emergency power to the plant. One small emergency engine-generator, 125 kW output, will provide emergency power to the switchyard. Fuel used in the emergency engines must meet the requirements of 40 CFR 80.510(b), pursuant to 40 CFR 60.4207(b).

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are LAER for NOx. For the large engine: 6.4 g/kW-hr For the small engine: 4.0 g/kW-hr Permit limits are as follows: For the large engine: 23.0 lb/hr and 1.7 ton/yr For the small engine: 1.2 lb/hr and 0.09 ton/yr

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for CO. For the large engine: 3.5 g/kW-hr For the small engine: 5.0 g/kW-hr Permit limits are as follows: For the large engine: 12.5 lb/hr and 0.9 ton/yr For the small engine 1.5 lb/hr and 0.11 ton/yr

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: In the issued permit, TPM addresses PM, PM10 and PM2.5 Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for PM. For the large engine: 0.20 g/kW-hr For the small engine: 0.30 g/kW-hr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1:

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limit: 241 tons/year (includes firewater engine)

Process/Pollutant Information

PROCESS NAME: Firewater Pump Engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Ultra-low sulfur diesel
Throughput: 0
Process Notes: A 422 horsepower engine will power the pump in the firewater system. Fuel must meet the requirements of 40 CFR 80.510(b), pursuant to 40 CFR 60.4207(b).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are LAER for NOx. For NOx: 4.0 g/kW-hr

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for CO. For CO; 3.5 g/kW-hr

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: In the issued permit, TPM addresses PM, PM10 and PM2.5 Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for PM. For PM: 0.20 g/kW-hr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limit: 241 ton/year. (includes emergency engines)

Process/Pollutant Information

PROCESS NAME: Natural Gas Piping and Components
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel:
Throughput: 0
Process Notes: GHG and methane may leak from components, such as valves and flanges

POLLUTANT NAME: Methane
CAS Number: 74-82-8
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)

Emission Limit 1:
Emission Limit 2: 32.0000 TON/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Leak Detection and Repair (LDAR) program; "leakless" components
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Compliance is demonstrated using methods in 40 CFR 60 Subpart VVa, i.e., a leak is a methane concentration of 2000 ppm or greater.

Process/Pollutant Information

PROCESS NAME: Circuit Breakers
Process Type: 99.999 (Other Miscellaneous Sources)
Primary Fuel:
Throughput: 0
Process Notes: Electrical switchgear includes circuit breakers that use gaseous sulfur hexafluoride (SF6) as a dielectric insulating material. Emissions may result from leaks.

POLLUTANT NAME: Sulfur Hexafluoride
CAS Number: 2551-62-4
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 0.5000 % LEAK RATE CALENDAR YEAR AVERAGE
Emission Limit 2: 14.6000 LB/YR 12-MONTH ROLLING AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Compliance with emission limits demonstrated using procedures in 40 CFR 98 Subpart DD.

Process/Pollutant Information

PROCESS NAME: Roadways
Process Type: 99.140 (Paved Roads)
Primary Fuel:
Throughput: 0
Process Notes: Roadways that serve trucks delivering bulk materials, e.g., ULSD or deionized water, for the combustion turbines or selective catalytic regenerator reagent.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 10.0000 % OPACITY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Paving is required for roads used by trucks transporting bulk materials.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: TPM addresses PM, PM10 and PM2.5

Facility Information

RBLC ID:	MI-0435 (final)	**Date Determination Last Updated:**	02/19/2019
Corporate/Company Name:	DTE ELECTRIC COMPANY	**Permit Number:**	19-18
Facility Name:	BELLE RIVER COMBINED CYCLE POWER PLANT	**Permit Date:**	07/16/2018 (actual)
Facility Contact:	MATTHEW PAUL 313-235-3374 MATTHEW.PAUL@DTEENERGY.COM	**FRS Number:**	Not Found
Facility Description:	Natural gas combined-cycle power plant	**SIC Code:**	4911
Permit Type:	B: Add new process to existing facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	ST. CLAIR		
Facility State:	MI		
Facility ZIP Code:	48054		
Permit Issued By:	MICHIGAN DEPT OF ENVIRONMENTAL QUALITY (Agency Name) MS. CINDY SMITH(Agency Contact) (517)284-6802 SMITHC17@MICHIGAN.GOV		
Other Agency Contact Info:	For technical questions regarding the permit, please contact the permit engineer, Mr. John Vial, at 517-284-6805 or at vialj@michigan.gov. Thank you.		
Permit Notes:	The new combined cycle plant is proposed to be located near DTE's existing Belle River and St. Clair coal fired power plants. The three plants will be considered a single stationary source. It will have a capacity of 1,150 megawatts.		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	176.0000 (Tons/Year)
Nitrogen Oxides (NOx)	268.2200 (Tons/Year)
Particulate Matter (PM)	160.0300 (Tons/Year)
Sulfur Oxides (SOx)	39.4200 (Tons/Year)
Volatile Organic Compounds (VOC)	90.5200 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	FGCTGHRSG (EUCTGHRSG1 & EUCTGHRSG2)
Process Type:	15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel:	Natural gas
Throughput:	0

Process Notes: Two (2) combined-cycle natural gas-fired combustion turbine generators, each with a heat recovery steam generator (CTGHRSG). Plant nominal 1,150 MW electricity production. Turbines are each rated at 3,658 MMBTU/H and HRSG duct burners are each rated at 800 MMBTU/H. The HRSGs are not capable of operating independently from the CTGs.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0045 LB/MMBTU EACH UNIT; 24-H ROLL AVG; NOT S.S.

Emission Limit 2: 17.5900 LB/H EACH UNIT; 24-H ROLL AVG; NOT S.S.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 3 CO emission limits in the permit; as follows: Emission limit 1 = 0.0045 LB/MMBTU based on a 24-hour rolling average as determined each operating hour, except during startup and shutdown (S.S.). The limit applies to each unit. Emission limit 2 = 17.59 LB/H based on a 24-hour rolling average as determined each operating hour except during startup and shutdown (S.S.). The limit applies to each unit. Emission limit 3 = 791.5 LB/H each operating hour during startup or shutdown. Oxidation catalyst reduction is expected to reduce CO by 85-90%. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMVD AT 15%O2; 24-H ROLL AVG; EACH UNIT;

Emission Limit 2: 28.9000 LB/H 24-H ROLL AVG; EACH UNIT; NOT S.S.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) SCR with DLNB (Selective catalytic reduction with dry low NOx burners).

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 4 NOx emission limits in the permit, described below: Emission limit 1 = 2 ppmvd at 15% O2 based on a 24-hour rolling average as determined each operating hour, except during startup and shutdown (S.S.). The limit applies to each unit. Emission limit 2 = 28.90 LB/H based on a 24-hour rolling average as determined each operating hour, except during startup and shutdown (S.S.). The limit applies to each unit. Emission limit 3 = 15 ppmvd at 15% O2 based on a 30-day rolling average as determined each operating day. The limit applies to each unit and is from NSPS KKKK. Emission limit 4 = 262.4 LB/H each operating hour during startup or shutdown (S.S.). The limit applies to each unit. The estimated efficiency of SCR with DLNB is a range of 80-90%. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 16.0000 LB/H HOURLY; EACH UNIT

Emission Limit 2: 12.2000 LB/H HOURLY; EACH UNIT W/O DUCT BURNER FIRING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost analysis was for the best scenario: 100 percent capture of PM2.5, where PM and PM10 calculations equaled PM2.5. Pulse Jet Fabric Filter Baghouse: minimum of $174,206 per ton Mechanical Shaker Fabric Filter Baghouse: minimum of $145,172 per ton Reverse-Air Fabric Filter Baghouse: minimum of $232,274 per ton Dry ESP (Wire-Plate Type): minimum of $116,721 per ton Dry ESP (Wire-Pipe Type): minimum of $261,309 per ton Wet ESP (Wire-Plate Type): minimum of $263,153 per ton Wet ESP (Wire-Pipe Type): minimum of $348,412 per ton Venturi Scrubber: minimum of $167,000 per ton

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 16.0000 LB/H HOURLY; EACH UNIT

Emission Limit 2: 12.2000 LB/H HOURLY; EACH UNIT W/O DUCT BURNER FIRING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost analysis was for the best scenario: 100 percent capture of PM2.5, where PM and PM10 calculations equaled PM2.5. Pulse Jet Fabric Filter Baghouse: minimum of $174,206 per ton Mechanical Shaker Fabric Filter Baghouse: minimum of $145,172 per ton Reverse-Air Fabric Filter Baghouse: minimum of $232,274 per ton Dry ESP (Wire-Plate Type): minimum of $116,721 per ton Dry ESP (Wire-Pipe Type): minimum of $261,309 per ton Wet ESP (Wire-Plate Type): minimum of $263,153 per ton Wet ESP (Wire-Pipe Type): minimum of $348,412 per ton Venturi Scrubber: minimum of $167,000 per ton

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 16.0000 LB/H HOURLY; EACH UNIT

Emission Limit 2: 12.2000 LB/H HOURLY; EACH UNIT W/O DUCT BURNER FIRING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost analysis was for the best scenario: 100 percent capture of PM2.5, where PM and PM10 calculations equaled PM2.5. Pulse Jet Fabric Filter Baghouse: minimum of $174,206 per ton Mechanical Shaker Fabric Filter Baghouse: minimum of $145,172 per ton Reverse-Air Fabric Filter Baghouse: minimum of $232,274 per ton Dry ESP (Wire-Plate Type): minimum of $116,721 per ton Dry ESP (Wire-Pipe Type): minimum of $261,309 per ton Wet ESP (Wire-Plate Type): minimum of $263,153 per ton Wet ESP (Wire-Pipe Type): minimum of $348,412 per ton Venturi Scrubber: minimum of $167,000 per ton

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0026 LB/MMBTU EACH UNIT; HOURLY EXCEPT S.S.

Emission Limit 2: 0.0013 LB/MMBTU EACH UNIT W/O DUCT BURNER FIRING; NOT SS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limits above are described further below: Emission limit 1 applies to each unit and is 0.0026 LB/MMBTU, hourly except during startup and shutdown. Emission limit 2 applies to each unit without duct burner firing and is 0.0013 LB/MMBTU, hourly except during startup and shutdown.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0013 LB/MMBTU HOURLY; EACH UNIT
Emission Limit 2: 5.0400 LB/H HOURLY; EACH UNIT W/O DUCT BURNER FIRING
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The estimated cost of controlling H2SO4 using FGD is over $100,000 per ton.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 2042773.0000 T/YR 12-MO ROLLING TIME PERIOD; EACH UNIT
Emission Limit 2: 794.0000 LB/MW-H 12-OPER MO ROLL AVG; EACH UNIT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Energy efficiency measures
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The estimated cost of CCS is over $70,000,000 per year. This does not take into account the large parasitic load caused by a CCS system. For emission limit 2 above (794 LB/MW-H), compliance is determined monthly at the end of the initial and each subsequent 12-operating month period. The first month of the initial compliance period is defined in 40 CFR 60.5525(c)(1)(i).

Process/Pollutant Information

PROCESS NAME: FGCTGHRSG (EUCTGHRSG1 & EUCTGHRSG2)--Startup & Shutdown

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 0

Process Notes: This section is the startup and shutdown emission limits for FGCTGHRSG. Two 3,658 MMBTU/H natural gas-fired combustion turbine generators (CTGs) coupled with heat recovery steam generators (HRSGs). The HRSGs are equipped with natural gas-fired duct burners rated at 800 MMBTU/H to provide heat for additional steam production. The HRSGs are not capable of operating independently from the CTGs.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 791.5000 LB/H EACH UNIT; OPERATING HOUR DURING S.S.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit is 791.5 LB/H, per operating hour during startup or shutdown. The limit applies to each unit. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 262.4000 LB/H EACH UNIT; OPERATING HOUR DURING S.S.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (A) SCR with DLNB (Selective catalytic reduction with dry low NOx burners).
Est. % Efficiency: 80.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limit above is 262.4 LB/H for each unit and is per operating hour during startup or shutdown. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit.

Process/Pollutant Information

PROCESS NAME: EUAUXBOILER: Auxiliary Boiler
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural gas
Throughput: 99.90 MMBTU/H
Process Notes: A natural gas-fired auxiliary boiler, rated at 99.9 MMBTU/H to facilitate startup of the CTG/HRSG trains and to provide steam to the steam turbine generator seals. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0750 LB/MMBTU HOURLY
Emission Limit 2: 7.4900 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0360 LB/MMBTU HOURLY
Emission Limit 2: 3.6000 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low NOx burners/Flue gas recirculation.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The cost of selective catalytic reduction (SCR) is over $100,000 for the project.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0070 LB/MMBTU HOURLY
Emission Limit 2: 0.7000 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices, low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0070 LB/MMBTU HOURLY
Emission Limit 2: 0.7000 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices, low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0070 LB/MMBTU HOURLY
Emission Limit 2: 0.7000 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices, low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0080 LB/MMBTU HOURLY
Emission Limit 2: 0.8000 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.3400 GR S/100 SCF FUEL SUPPLIER RECORDS
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices, low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 25623.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Energy efficiency measures, use of natural gas.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUEMENGINE: Emergency engine
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel

Throughput: 2.00 MW

Process Notes: A nominal 2 MW diesel-fueled emergency engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 6.4000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit is actually in "NMHC+NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.1800 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.1800 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.8900 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER RECORDS OR TEST DATA
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices, low sulfur fuel.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight. Fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 161.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Energy efficient design.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUFPENGINE: Fire pump engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 399.00 BHP
Process Notes: A 399 brake HP diesel-fueled emergency fire pump engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 4.0000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit is actually in "NMHC+ NOx" (nonmethane hydrocarbon plus NOx) which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.1300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER RECORDS OR TEST DATA
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices, low sulfur fuel.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight, using fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 86.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Energy efficient design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUFUELHTR1: Natural gas fired fuel heater
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural gas
Throughput: 20.80 MMBTU/H
Process Notes: A natural gas-fired 20.8 MMBTU/H heat input HP fuel heater.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.7700 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP

Control Method: (P) Good combustion controls.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.7500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low NOx burner
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP

Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP

Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.1700 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.3400 GR S/100 SCF FUEL SUPPLIER RECORDS
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP

Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 6310.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Natural gas fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limit above is the Total for EUFUELHTR1 & EUFUELHTR2.

Process/Pollutant Information

PROCESS NAME: EUFUELHTR2: Natural gas fired fuel heater
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural gas
Throughput: 3.80 MMBTU/H
Process Notes: A natural gas-fired 3.8 MMBTU/H heat input HP fuel heater.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.1400 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.1400 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low NOx burner
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion controls.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.3400 GR S/100 SCF FUEL SUPPLIER RECORDS
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 6310.0000 T/YR 12-MONTH ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Natural gas fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUCOOLINGTWR: Cooling Tower

Process Type: 99.009 (Industrial Process Cooling Towers)

Primary Fuel:

Throughput: 0

Process Notes: A 14 cell wet mechanical draft cooling tower equipped with drift eliminators.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 4.0300 LB/H HOURLY

Emission Limit 2: 0.0005 % VENDOR CERTIF. MAX DRIFT RATE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) High efficiency drift/mist eliminators

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a 3rd emission limit in the permit-- Emission Limit 3 = Total Dissolved Solids (TDS) in circulating water = 3000 ppmw, monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency of the controls is to reduce drift loss to 0.0005%.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4800 LB/H HOURLY

Emission Limit 2: 0.0005 % VENDOR CERTIF. MAX DRIFT RATE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) High efficiency drift/mist eliminators

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a 3rd emission limit in the permit as follows: Emission Limit 3 is Maximum Total Dissolved Solids (TDS) in circulating water = 3000 ppmw, monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency of the controls is to reduce drift loss to 0.0005%.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4800 LB/H HOURLY

Emission Limit 2: 0.0005 % VENDOR CERTIF MAX DRIFT RATE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) High efficiency drift/mist eliminators

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a 3rd emission limit as follows: Emission Limit 3 is Maximum Total Dissolved Solids (TDS) in circulating water = 3000 ppmw, monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency of the controls is to reduce drift loss to 0.0005%.

Facility Information

RBLC ID:	MI-0433 (final)	**Date Determination**	
		Last Updated:	02/19/2019
Corporate/Company Name:	MARSHALL ENERGY CENTER LLC	**Permit Number:**	167-17 AND 168-17
Facility Name:	MEC NORTH, LLC AND MEC SOUTH LLC	**Permit Date:**	06/29/2018 (actual)

Facility Contact:	WILLARD LADD 914-468-2402 WLADD@DEVELOPMENTPARTNERS.COM	**FRS Number:**	Not Found
Facility Description:	Natural gas combined cycle power plant (two plants: north and south)	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	CALHOUN		
Facility State:	MI		
Facility ZIP Code:	49068		

Permit Issued By: MICHIGAN DEPT OF ENVIRONMENTAL QUALITY (Agency Name)
MS. CINDY SMITH(Agency Contact) (517)284-6802 SMITHC17@MICHIGAN.GOV

Other Agency Contact Info: There are two plants (MEC North, LLC and MEC South, LLC) that will operate as separate entities but they are considered a single stationary source and the installation of the two new plants was reviewed as a single project. There are two Air Permits to Install for the two plants (167-17 and 168-17). For technical questions regarding either of the two permits, please contact the permit engineer Ms. Catherine Asselin at 517-284-6786 or at asselinc@michigan.gov. Thank you.

Permit Notes: There are two plants that will operate as separate entities and each received a separate Air Permit to Install, but they are considered one stationary source and were reviewed as one project.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	310.5200 (Tons/Year)
Nitrogen Oxides (NOx)	578.8100 (Tons/Year)
Particulate Matter (PM)	61.2300 (Tons/Year)
Sulfur Oxides (SOx)	56.6100 (Tons/Year)
Volatile Organic Compounds (VOC)	189.2200 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: EUCTGHRSG (North Plant): A combined-cycle natural gas-fired combustion turbine generator with heat recovery steam generator.

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 500.00 MW

Process Notes: Nominal 500 MW electricity production. Turbine rating of 3,080 MMBTU/hr (HHV) and HRSG duct burner rating of 755 MMBTU/hr (HHV). A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/hr (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/hr (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR, and an oxidation catalyst.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 4.0000 PPMVD AT 15%O2; 24-H ROLL AVG; NOT INCL ST/SH

Emission Limit 2: 788.6000 LB/H OPERATING HR DURING STARTUP OR SHUTDOWN

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are two emission limits: Emission limit 1 = 4 ppmvd at 15%O2 based on a 24-hr rolling average as determined each operating hour, except during startup or shutdown. Emission limit 2 = 788.6 lb/h each operating hour during startup or shutdown. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from teh lowering of teh turbine output below the demonstrated steady state level, with teh intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2. Startup and shutdown hours are limits to 300 hours per 12-month rolling time period.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMVD AT 15%O2; 24-H ROLL AVG; NOT S.S.

Emission Limit 2: 29.7000 LB/H 24-H ROLL AVG; NOT STARTUP/SHUTDOWN (SS)

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) SCR with DLNB (Selective catalytic reduction with Dry Low NOx burners).

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 4 NOx emission limits for EUCTGHRSG as follows: Emission limit 1 = 2 ppmvd at 15%O2 based on a 24-hour rolling average as determined each operating hour except during startup and shutdown. Emission Limit 2 = 29.7 lb/h based on a 24-hour rolling average as determined each operating hour except during startup and shutdown. Emission Limit 3 = 15 ppmvd at 15%O2 based on a 30-day rolling average as determined each operating day. This limit is from NSPS KKKK. Emission limit 4 = 126.5 lb/h each operating hour during startup or shutdown. Estimated efficiency of SCR with DLNB is a range of 80-90% Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level shall be described in the plan required by Special Condition III.2. Startup and shutdown hours are limited to 300 hours per 12-month rolling time period.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.8000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: (5.8 lb/hr is equivalent to 0.002 lb/MMBTU which is about 30 percent of PM10 and PM2.5) The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10 which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulse jet fabric filter baghouse: average of $334,000 per ton. Mechanical shaker fabric filter baghouse: average of $370,500 per ton Reverse-Air fabric filter baghouse: average of $437,000 per ton Dry ESP (Wire-plate type): average of $438,500 per ton Dry ESP (Wire-pipe type): average of $278,500 per ton Wet ESP (Wire-plate type): average of $528,500 per ton Wet ESP

(Wire-pipe type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.1000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: (19.1 lb/h is equivalent to 0.005 lb/MMBTU which includes startup and shutdown). The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10 which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulset jet fabric filter baghouse: average of $334,000 per ton. Mechanical shaker fabric filter baghouse: average of $370,500 per ton. Reverse-air fabric filter baghouse: average of $437,000 per ton. Dry ESP (Wire-plate type): average of $438,500 per ton Dry ESP (Wire-pipe type): average of $278,500 per ton Wet ESP (Wire-plate type): average of $528,500 per ton Wet ESP (Wire-pipe type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.1000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: (19.1 pph is equivalent to 0.005 lb/MMBTU, which includes startup and shutdown). The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulse Jet Fabric Filter Baghouse: average of $334,000 per ton Mechanical Shaker Fabric Filter Baghouse: average of $370,500 per ton Reverse-Air Fabric Filter Baghouse: average of $437,000 per ton Dry ESP (Wire-Plate Type): average of $438,500 per ton Dry ESP (Wire-Pipe Type): average of $278,500 per ton Wet ESP (Wire-Plate Type): average of $528,500 per ton Wet ESP (Wire-Pipe Type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.0000 PPMVD AT 15%O2; HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Emission limit 1 above does not include startup and shutdown. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2. Startup and Shutdown hours are limited to 300 hours per 12 month rolling time period.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 6.6000 LB/H HOURLY
Emission Limit 2: 0.6000 GR S/100 SCF FUEL SUPPLIER RECORDS
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: There is a 3rd emission limit which is 0.060 lb/MMBTU based on the NSPS. There is also a NSPS natural gas material limit of 20 grains of sulfur per 100 scf. Even though MEC determined FGD to be technically infeasible due to the low SO2 content in the flue gas, they also provided an economic analysis. The use of pipeline quality natural gas and good combustion practices were used for the emission calculations. All reductions in emissions were with these potential control options already incorporated as baseline conditions. They concluded that with costs of over $200,000 per ton of controlled SO2 and H2SO4 combined, FGD also would not be economically feasible.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 2.7000 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: H2SO4 was calculated from manufacturer's data, assuming 100% conversion of SO3 to H2SO4. Even though MEC determined FGD and wet ESPs to be technically infeasible due to the low H2SO4 content in the flue gas, they also provided economic analyses. The use of pipeline quality natural gas and good combustion practices were used for the emission calculations. All reductions in emissions were with these potential control options already incorporated as baseline conditions. They concluded that with costs of over $200,000 per ton of controlled SO2 and H2SO4 combined, FGD would not be economically feasible, and with costs of over $400,000 per ton of controlled particulate H2SO4 removed, wet ESPs would also not be economically feasible.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1978297.0000 T/YR 12-MO ROLL TIME PERIOD

Emission Limit 2: 806.0000 LB/MWH 12- OPERATING MONTH ROLL AVG

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Emission limit 2 is 806 LB/MWH based on 12-operating month rolling average basis as determined at the end of each operating calendar month. Compliance is determined monthly at the end of the initial and each subsequent 12-operating month period. The first month of the initial compliance period is defined in 40 CFR 60.5525(c)(1)(i). The amine-based CCS technologies were used since these are generally considered to be the most feasible near-term deployable technology for possible future CO2 removal. CCS is assumed to be about 90 percent effective. Using the lowest capital cost range, the estimated capital cost for CCS for the proposed project is approximately $393 million, including the cost of a pipeline to transport the CO2 and the cost of the CO2 control system. The cost per ton was close to $100/ton, which was not considered economically feasible.

Process/Pollutant Information

PROCESS NAME: EUAUXBOILER (North Plant): Auxiliary Boilder

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 61.50 MMBTU/H

Process Notes: A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0800 LB/MMBTU HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost of an oxidation catalyst is between $6,000 to $31,000 per ton (average of $18,500) for CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0400 LB/MMBTU 30-DAY ROLLING AVG TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Low NOx burners/flue gas recirculation and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Selective catalytic reduction (SCR) was calculated to be over $18,000/ton for NOx.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 LB/MMBTU HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: At greater than $80,000 per year annual cost for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a venturi scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: At greater than $80,000 per year annual cost for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a venturi scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0040 LB/MMBTU HOURLY
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The cost of an oxidation catalyst is between $6,000 to $31,000/ton (average $18,500) for CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 1.8000 LB/MMSCF MONTHLY
Emission Limit 2: 0.6000 GR S/100 SCF FUEL SUPPLIER RECORDS
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The natural gas material limit of 2,000 grains of sulfur per MMSCF is what the emission factor is based upon.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 31540.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUEMENGINE (North Plant): Emergency Engine
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 1341.00 HP
Process Notes: A 1,341 HP (1,000 kilowatts (KW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 6.4000 G/KW-H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The limit is actually in "NMHC+NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 G/KW-H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5400 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5200 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.8600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER CERTIF. RECORDS
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No

Pollutant/Compliance Notes: The emission limit above is the diesel material limit of 15 ppm of sulfur (0.0015 percent) by weight. Fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil is compliance method.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 383.0000 T/YR 12-MO. ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUFPENGINE (North Plant): Fire pump engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 300.00 HP
Process Notes: A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6000 G/BHP-H HOURLY
Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.0000 G/BHP-H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The limit is actually in "NMHC+NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 G/BHP-H HOURLY

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H HOURLY

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.7500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER RECORDS

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 85.6000 T/YR 12-MONTH ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUCOOLTOWER (North Plant): Cooling Tower
Process Type: 99.009 (Industrial Process Cooling Towers)

Primary Fuel:

Throughput: 170000.00 GAL/M

Process Notes: An eight-cell wet mechanical draft cooling tower and a nominal rated circulation rate of 170,000 gallons per minute (GAL/M). Particulate in water droplets will be controlled with high efficiency drift/mist eliminators.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 5.5900 T/YR 12-MONTH ROLLING TIME PERIOD
Emission Limit 2: 0.0005 % VENDOR CERTIFIED MAX DRIFT RATE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) High efficiency drift/mist eliminators
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: There is a third emission limit in the permit: Maximum total dissolved solids (TDS) in circulating water = 3000 PPMW; monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency is to reduce drift loss to 0.0005%.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.8500 T/YR 12-MONTH ROLLING TIME PERIOD
Emission Limit 2: 0.0005 % VENDOR-CERTIFIED MAX DRIFT RATE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) High efficiency drift/mist eliminators

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a third emission limit in the permit which is the Maximum Total Dissolved Solids (TDS) in circulating water = 3000 PPMW; monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency is to reduce drift loss to 0.0005%.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 2.8500 T/YR 12-MONTH ROLLING TIME PERIOD

Emission Limit 2: 0.0005 % VENDOR CERTIIFIED MAX DRIFT RATE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) High efficiency drift/mist eliminators

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a third emission limit which is Maximum Total Dissolved Solids (TDS) in circulating water = 3000 PPMW; monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency is to reduce drift loss to 0.0005%.

Process/Pollutant Information

PROCESS NAME: EUCTGHRSG (South Plant): A combined cycle natural gas-fired combustion turbine generator with heat recovery steam generator.

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 500.00 MW

Process Notes: A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/H (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/H (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR and an oxidation catalyst.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 4.0000 PPMV AT 15%O2; 240HR ROLL AVG; NOT S.S.

Emission Limit 2: 788.6000 LB/H OPERATING HR DURING STARTUP OR SHUTDOWN

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The first emission limit above is 4 PPMVD at 15%O2 based on a 24-hour rolling average as determined each operating hour EXCEPT during startup and shutdown. Emission limit 2 above is 788.6 LB/H during each operating hour during startup or shutdown (S.S.). Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit. Startup and Shutdown hours are limited to 300 hours per 12 month rolling time period.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMV AT 15%O2; 24-HR ROLL AVG NOT S.S.

Emission Limit 2: 29.7000 LB/H 24-H ROLL AVG NOT S.S.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) SCR with DLNB (Selective catalytic reduction with dry low NOx burners).

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The estimated efficiency of SCR with DLNB is a range of 80-90%. There are 4 NOx emission limits in the permit, as follows: Emission Limit 1 = 2 ppmvd at 15%O2 based on a 24-hour rolling average as determined each operating hour except during startup and shutdown (S.S.). Emission limit 2 - 15 ppmvd at 15%O2 based on a 30-day rolling average as determined each operating day (not including startup and shutdown) per NSPS KKKK. Emission limit 3 = 29.7 LB/H based on a 24-hour rolling average as determined each operating hour except during startup and shutdown. Emission limit 4 = 126.5 LB/H based on each operating hour during startup or shutdown. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit. Startup and Shutdown hours are limited to 300 hours per 12 month rolling time period.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.8000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 5.8 pph is equivalent to 0.002 lb/MMBTU, which is about 30 percent of PM10 and PM2.5. The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulse Jet Fabric Filter Baghouse: average of $334,000 per ton Mechanical Shaker Fabric Filter Baghouse: average of $370,500 per ton Reverse-Air Fabric Filter Baghouse: average of $437,000 per ton Dry ESP (Wire-Plate Type): average of $438,500 per ton Dry ESP (Wire-Pipe Type): average of $278,500 per ton Wet ESP (Wire-Plate Type): average of $528,500 per ton Wet ESP (Wire-Pipe Type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.1000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 19.1 pph is equivalent to 0.005 lb/MMBTU, which includes startup and shutdown The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulse Jet Fabric Filter Baghouse: average of $334,000 per ton Mechanical Shaker Fabric Filter Baghouse: average of $370,500 per ton Reverse-Air Fabric Filter Baghouse: average of $437,000 per ton Dry ESP (Wire-Plate Type): average of $438,500 per ton Dry ESP (Wire-Pipe Type): average of $278,500 per ton Wet ESP (Wire-Plate Type): average of $528,500 per ton Wet ESP (Wire-Pipe Type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.1000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 19.1 pph is equivalent to 0.005 lb/MMBTU, which includes startup and shutdown The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulse Jet Fabric Filter Baghouse: average of $334,000 per ton Mechanical Shaker Fabric Filter Baghouse: average of $370,500 per ton Reverse-Air Fabric Filter Baghouse: average of $437,000 per ton Dry ESP (Wire-Plate Type): average of $438,500 per ton Dry ESP (Wire-Pipe Type): average of $278,500 per ton Wet ESP (Wire-Plate Type): average of $528,500 per ton Wet ESP (Wire-Pipe Type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.0000 PPMVD AT 15%O2; NOT INCL. STARTUP/SHUTDOWN

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit. Startup and Shutdown hours are limited to 300 hours per 12 month rolling time period.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 6.6000 LB/H HOURLY

Emission Limit 2: 0.6000 GR S/100 SCF FUEL SUPPLIER RECORDS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 3 emission limits and one material limit in the permit as follows: Emission Limit 1 = 6.6 LB/H Emission Limit 2 = 0.6 GR Sulfur/100 scf Emission Limit 3 = 0.060 LB/MMBTU from the NSPS Emission Limit 4 is a NSPS natural gas material limit of 20 grains of sulfur per 100 scf. Even though MEC determined FGD to be technically infeasible due to the low SO2 content in the flue gas, they also provided an economic analysis. The use of pipeline quality natural gas and good combustion practices were used for the emission calculations. All reductions in emissions were with these potential control options already incorporated as baseline conditions. They concluded that with costs of over $200,000 per ton of controlled SO2 and H2SO4 combined, FGD also would not be economically feasible.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 2.7000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: H2SO4 was calculated from manufacturer's data, assuming 100% conversion of SO3 to H2SO4. Even though MEC determined FGD and wet ESPs to be technically infeasible due to the low H2SO4 content in the flue gas, they also provided economic analyses. The use of pipeline quality natural gas and good combustion practices were used for the emission calculations. All reductions in emissions were with these potential control options already incorporated as baseline conditions. They concluded that with costs of over $200,000 per ton of controlled SO2 and H2SO4 combined, FGD would not be economically feasible, and with costs of over $400,000 per ton of controlled particulate H2SO4 removed, wet ESPs would also not be economically feasible.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1978297.0000 T/YR 12-MO ROLLING TIME PERIOD

Emission Limit 2: 806.0000 LB/MW-H 12-OPERATING MONTH ROLL AVG BASIS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: For emission limit 2 (806 LB/MW-H) it is based on a 12-operating month rolling average basis as determined at the end of each operating calendar month (basis is BACT & NSPS TTTT). Compliance is determined monthly at the end of the initial and each subsequent 12-operating month period. The first month of the initial compliance period is defined in 40 CFR 60.5525(c)(1)(i). The amine-based CCS technologies were used since these are generally considered to be the most feasible near-term deployable technology for possible future CO2 removal. CCS is assumed to be about 90 percent effective. Using the lowest capital cost range, the estimated capital cost for CCS for the proposed project is approximately $393 million, including the cost of a pipeline to transport the CO2 and the cost of the CO2 control system. The cost per ton was close to $100/ton, which was not considered economically feasible.

Process/Pollutant Information

PROCESS NAME: EUAUXBOILER (South Plant): Auxiliary Boiler

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 61.50 MMBTU/h

Process Notes: A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0800 LB/MMBTU HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost of an oxidation catalyst is between $6,000 to $31,000/ton (average of $18,500) for CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0400 LB/MMBTU 30 DAY ROLLING AVG TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Low NOx burners/flue gas recirculation and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Selective catalytic reduction (SCR) was calculated to be over $18,000/ton for NOx.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: At greater than $80,000 per year annual cost for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a venturi scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: At greater than $80,000 per year annual cost for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a venturi scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0040 LB/MMBTU HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost of an oxidation catalyst is between $6,000 to $31,000/ton (average of $18,500) for CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 1.8000 LB/MMSCF MONTHLY

Emission Limit 2: 0.6000 GR S/100 SCF FUEL SUPPLIER RECORDS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The natural gas material limit of 2,000 grains of sulfur per MMscf is what the emission factor is based upon.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 31540.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUEMENGINE (South Plant): Emergency Engine
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 1341.00 HP
Process Notes: A 1,341 HP (1,000 kilowatts (kW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 6.4000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit is actually in "NMHC+NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5400 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5200 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.8600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER RECORDS OR SMPLE TEST DATA
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight. Fuel supplier certification records or fuel sample test data, for each deliver of diesel fuel oil.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 383.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUFPENGINE (South Plant): Fire pump engine

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel

Throughput: 300.00 HP

Process Notes: A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.6000 G/BPH-H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.0000 G/BHP-H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit is actually in "NMHC + NOx" (nonmethane hydrocarbon plus NOx) which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/BHP-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS

Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: EPA/OAR OTM 27 and Mthd 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.7500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER RECORDS OR FUEL SAMPL DATA
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight based on fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 85.6000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUCOOLTOWER (South Plant): Cooling Tower
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel: NA
Throughput: 170000.00 GAL/M
Process Notes: An eight-cell, wet mechanical draft cooling tower and a nominal rated circulation rate of 170,000 gallons per minute (GAL/M). Particulate in water droplets will be controlled with high efficiency drift/mist eliminators.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 5.5900 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2: 0.0005 % VENDOR-CERTIF. MAX DRIFT RATE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) High efficiency drift/mist eliminators.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: There is a third emission limit in the permit, as follows: Maximum total dissolved solids (TDS) in circulating water = 3000 ppmw, monthly as determined based upon weekly and monthly parameter monitoring.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 2.8500 T/YR 12-MO ROLLING TIME PERIOD

Emission Limit 2: 0.0005 % VENDOR-CERTIF. MAX DRIFT RATE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) High efficiency drift/mist eliminators.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a third emission limit as follows: Maximum Total Dissolved Solids (TDS) in circulating water = 3000 ppmw; monthly as determined based upon weekly and monthly parameter monitoring. Estimated efficiency of add on controls is to reduce drift loss to 0.0005%.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 2.8500 T/YR 12-MO ROLLING TIME PERIOD

Emission Limit 2: 0.0005 % VENDOR-CERTIF. MAX DRIFT RATE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) High efficiency drift/mist eliminators.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a third emission limit in the permit as follows: Maximum Total Dissolved Solids (TDS) in circulating water = 3000 ppmw; monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency of the add on controls is to reduce drift loss to 0.0005%.

Facility Information

RBLC ID:	OH-0377 (final)	**Date Determination Last Updated:**	06/19/2019
Corporate/Company Name:	HARRISON POWER	**Permit Number:**	P0122266
Facility Name:	HARRISON POWER	**Permit Date:**	04/19/2018 (actual)
Facility Contact:	JIM PALUMBO (570)793-6012 JPALUMBO@EMBERCLEAR.COM	**FRS Number:**	Not Found
Facility Description:	1000 MW natural gas-fired combined cycle combustion turbine plant	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	HARRISON		
Facility State:	OH		
Facility ZIP Code:	43907		

Permit Issued By: OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name)
MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov

Permit Notes: Initial installation permit for a 1000 MW combined cycle electric generating facility in Harrison County that includes two (2) combustion turbines with a heat recovery stream generator (HRSG) and duct burners, auxiliary boiler, emergency diesel generator engine, and emergency fire pump engine. The permit includes the option to install either General Electric turbines (with 80 MMBTU aux boiler B002) or Mitsubishi turbines (with 44.55 MMBTU aux boiler B001). The facility-wide pollutants table below is for the GE turbines. The Mitsubishi emissions are as follows: PM10/2.5 155.2, SO2 59.2, NOx 249.9, CO 219.7, VOC 169.5

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	227.6000 (Tons/Year)
Nitrogen Oxides (NOx)	280.2000 (Tons/Year)
Particulate Matter (PM)	160.7000 (Tons/Year)
Sulfur Oxides (SOx)	57.4000 (Tons/Year)
Volatile Organic Compounds (VOC)	98.4000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B001)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 44.55 MMBTU/H

Process Notes: 44.55 MMBtu/hr natural gas-fired boiler equipped with low-NOx burners. The permit includes the option to install either General Electric turbines (with 80 MMBTU aux boiler B002) or Mitsubishi turbines (with 44.55 MMBTU aux boiler B001).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 1.6700 LB/H
Emission Limit 2: 0.9000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0375 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 1.5600 LB/H
Emission Limit 2: 0.8400 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0350 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Good combustion practices and low NOx burner

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25A
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.1600 LB/H
Emission Limit 2: 0.0860 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0036 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: EPA/OAR Mthd 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3300 LB/H
Emission Limit 2: 0.1800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0075 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3300 LB/H
Emission Limit 2: 0.1800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0075 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3300 LB/H
Emission Limit 2: 0.1800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0075 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Other
Other Test Method: 40 CFR 60.4415
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0220 LB/H
Emission Limit 2: 0.0120 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 5.0000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0040 LB/H
Emission Limit 2: 0.0020 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 8.0000 X10-5 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 2817.6000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B002)
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural gas
Throughput: 80.00 MMBTU/H
Process Notes: 80 MMBtu/hr natural gas-fired boiler equipped with low-NOx burners. The permit includes the option to install either General Electric turbines (with 80 MMBTU aux boiler B002) or Mitsubishi turbines (with 44.55 MMBTU aux boiler B001).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 2.1900 LB/H
Emission Limit 2: 1.1800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0270 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Good combustion practices and low NOx burner
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.4800 LB/H
Emission Limit 2: 1.3400 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0310 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: EPA/OAR Mthd 25A
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2480 LB/H
Emission Limit 2: 0.1340 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0031 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4800 LB/H

Emission Limit 2: 0.2600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0060 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4800 LB/H

Emission Limit 2: 0.2600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0060 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4800 LB/H

Emission Limit 2: 0.2600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0060 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.1200 LB/H

Emission Limit 2: 0.0650 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0015 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0180 LB/H
Emission Limit 2: 0.0100 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.2000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 5009.1000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency Diesel Generator (P003)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 1860.00 HP

Process Notes: 1,387 KW (1,860 HP) emergency diesel-fired generator

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 19.6800 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 0.9800 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: All emissions limits are for Non-methane hydrocarbon (NMHC) + NOX emissions. 0.98 t/yr per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 6.4 g/kW-hr (4.8 g/hp-hr).

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 19.6800 LB/H NMHC+NOX. SEE NOTES.
Emission Limit 2: 0.9800 T/YR NMHC+NOX. SEE NOTES.
Standard Emission: 4.8000 G/BHP-H NMHC+NOX. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: All emissions limits are for Non-methane hydrocarbon (NMHC) + NOX emissions. 0.98 t/yr per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 6.4 g/kW-hr (4.8 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6200 LB/H

Emission Limit 2: 0.0310 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6200 LB/H
Emission Limit 2: 0.0310 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6200 LB/H

Emission Limit 2: 0.0310 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0015 LB/MMBTU
Emission Limit 2: 0.0230 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.001 t/yr per rolling, 12-month period.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 7.3000 X10-4 LB/MMBTU

Emission Limit 2: 0.0030 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00017 t/yr per rolling, 12-month period.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 109.2000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Efficient design and proper maintenance and operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:

Emission Limit 2:

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent during the acceleration mode; 15 percent during the lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

Process/Pollutant Information

PROCESS NAME: Emergency Fire Pump (P004)

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 320.00 HP

Process Notes: 238.6 KW (320 HP) emergency diesel-fired firewater pump

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.1200 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 0.1100 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: All emissions limits are for Non-methane hydrocarbon (NMHC) + NOX emissions. 0.11 t/yr per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 2.1200 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 0.1100 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: All emissions limits are for Non-methane hydrocarbon (NMHC) + NOX emissions. 0.11 t/yr per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 1.8300 LB/H

Emission Limit 2: 0.0920 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1100 LB/H
Emission Limit 2: 0.0055 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1100 LB/H
Emission Limit 2: 0.0055 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1100 LB/H
Emission Limit 2: 0.0055 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0150 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0015 LB/MMBTU
Emission Limit 2: 0.0040 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.0002 t/yr per rolling, 12-month period.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 7.3000 X10-4 LB/MMBTU
Emission Limit 2: 6.0000 X10-4 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00003 t/yr per rolling, 12-month period.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 18.6700 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) Efficient design and proper maintenance and operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: General Electric (GE) Combustion Turbines (P005 & P006)
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: Natural gas
Throughput: 3459.60 MMBTU/H

Process Notes: Two identical GE Combustion Turbines 1 and 2; GE model 7HA.02 natural gas-fired combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,459.6 MMBtu/hr (HHV) at 100% load and -2° F exhausting through a heat recovery steam generator (HRSG) with supplemental natural gas-fired duct burners nominally rated at 570.45 MMBtu/hr (HHV) controlled with catalytic oxidation and selective catalytic reduction (SCR) used to generate additional electricity. The permit includes the option to install either General Electric turbines (with 80 MMBTU aux boiler B002) or Mitsubishi turbines (with 44.55 MMBTU aux boiler B001). Limits and throughputs are for single turbine except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 29.5000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 139.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (A) dry low NOx burners and an SCR system

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period. 29.5 lb/h with duct burner, except startup and shutdown. 25.1 lb/h without duct burner, except startup and shutdown. 139 tons per rolling 12 month period for all operating modes, including startup and shutdown. 12.99 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 17.9000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 112.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period. 17.9 lb/h with duct burner, except startup and shutdown. 15.3 lb/h without duct burner, except startup and shutdown. 112.8 tons per rolling 12 month period for all operating modes, including startup and shutdown. 35.85 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.3600 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 49.1000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period and 10.3 lb/h with duct burner, except startup and shutdown. 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period and 4.36 lb/h without duct burner, except startup and shutdown. 49.1 tons per rolling 12 month period for all operating modes, including startup and shutdown. 4.81 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0052 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 18.4000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.00522 lb/mmbtu and 18.4 lb/h with duct burner. 0.00735 lb/mmbtu and 12.0 lb/h without duct burner. 80.2 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0052 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 18.4000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.00522 lb/mmbtu and 18.4 lb/h with duct burner. 0.00735 lb/mmbtu and 12.0 lb/h without duct burner. 80.2 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0052 LB/MMBTU WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 18.4000 LB/H WITH DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00522 lb/mmbtu and 18.4 lb/h with duct burner. 0.00735 lb/mmbtu and 12.0 lb/h without duct burner. 80.2 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Other
Other Test Method: 40 CFR 60.4415
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0017 LB/MMBTU SEE NOTES.
Emission Limit 2: 5.7500 LB/H WITH DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00174 lb/mmbtu and 4.13 lb/h with duct burner, except startup and shutdown. 0.00174 lb/mmbtu and 5.75 lb/h without duct burner. 28.65 tons per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0010 LB/MMBTU WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 3.5200 LB/H WITH DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00103 lb/mmbtu and 4.13 lb/h with duct burner, except startup and shutdown. 0.00102 lb/mmbtu and 3.52 lb/h without duct burner. 17.55 tons per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1000.0000 LB/MW-H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 1012.4000 LB/MW-H WITHOUT DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) High efficient combustion technology
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: With duct burners: 450 kg per MW-h of gross energy output (1,000 lbs/MW-h) on a 12-operating-month rolling average basis, or, if a petition is granted, CO2 emissions shall not exceed 470 kg per MW-h of net energy output (1,030 lbs/MW-h) on a 12-operating-month rolling average basis. [40 CFR 60.5520(a)-(c) and Table 2 of 40 CFR Part 60, Subpart TTTT] Without duct burners: 1,012.4 lbs/MW-hr gross energy output at full load ISO conditions when firing natural gas. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads. 2,499,820 t/yr of CO2e emissions per rolling, 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Mitsubishi Hitachi Power Systems (MHPS) Combustion Turbines (P007 & P008)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3231.00 MMBTU/H

Process Notes: Two identical MHPS Combustion Turbines 1 and 2; Mitsubishi Model M501JAC natural gas-fired combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,231 MMBtu/hr (HHV) at 100% load and 51° F exhausting through a heat recovery steam generator (HRSG) with supplemental natural gas-fired duct burners nominally rated at 306 MMBtu/hr (HHV) controlled with catalytic oxidation and selective catalytic reduction (SCR) used to generate electricity. The permit includes the option to install either General Electric turbines (with 80 MMBTU aux boiler B002) or Mitsubishi turbines (with 44.55 MMBTU aux boiler B001). Limits and throughputs are for single turbine except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 28.0000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 124.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (A) dry low NOx burners and an SCR system

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period. 28 lb/h with duct burner, except startup and shutdown. 26.7 lb/h without duct burner, except startup and shutdown. 124.0 tons per rolling 12 month period for all operating modes, including startup and shutdown. 3.22 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 17.1000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 109.1000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period. 17.1 lb/h with duct burner, except startup and shutdown. 16.3 lb/h without duct burner, except startup and shutdown. 109.1 tons per rolling 12 month period for all operating modes, including startup and shutdown. 35.40 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 9.8000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 84.7000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 9.8 lb/h with duct burner, except startup and shutdown. 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 4.7 lb/h without duct burner, except startup and shutdown. 84.7 tons per rolling 12 month period for all operating modes, including startup and shutdown. 42.50 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 17.7000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.005 lb/mmbtu and 17.7 lb/h with duct burner. 0.00444 lb/mmbtu and 14.10 lb/h without duct burner. 77.5 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 17.7000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.005 lb/mmbtu and 17.7 lb/h with duct burner. 0.00444 lb/mmbtu and 14.10 lb/h without duct burner. 77.5 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 LB/MMBTU WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 17.7000 LB/H WITH DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.005 lb/mmbtu and 17.7 lb/h with duct burner. 0.00444 lb/mmbtu and 14.10 lb/h without duct burner. 77.5 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Other
Other Test Method: 40 CFR 60.4415
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0021 LB/MMBTU
Emission Limit 2: 7.2200 LB/H WITH DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.0021 lb/mmbtu and 7.22 lb/h with duct burner. 0.0021 lb/mmbtu and 6.92 lb/h without duct burner. 29.57 tons per rolling 12 month period.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0022 LB/MMBTU
Emission Limit 2: 7.7400 LB/H WITH DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.0022 lb/mmbtu and 7.74 lb/h with duct burner. 0.0022 lb/mmbtu and 7.41 lb/h without duct burner. 31.69 tons per rolling 12 month period.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1000.0000 LB/MW-H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 976.0000 LB/MW-H WITHOUT DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) High efficient combustion technology
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: With duct burners: 450 kg per MW-h of gross energy output (1,000 lbs/MW-h) on a 12-operating-month rolling average basis, or, if a petition is granted, CO2 emissions shall not exceed 470 kg per MW-h of net energy output (1,030 lbs/MW-h) on a 12-operating-month rolling average basis. [40 CFR 60.5520(a)-(c) and Table 2 of 40 CFR Part 60, Subpart TTTT] Without duct burners: 976.0 lbs/MW-hr gross energy output at full load ISO conditions when firing natural gas. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads. 2,342,643 tons of CO2e emissions per rolling, 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	OH-0375 (final)	**Date Determination**	
		Last Updated:	06/19/2019
Corporate/Company Name:	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	**Permit Number:**	P0122829
Facility Name:	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	**Permit Date:**	11/07/2017 (actual)
Facility Contact:	KENNETH NICHOLSON (212)478-4128 RSTEWART@FORTRESS.COM	**FRS Number:**	110070396014
Facility Description:	Combined cycle combustion turbine power generation facility	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			

EPA Region:	5	**COUNTRY:**	USA
Facility County:	MONROE		
Facility State:	OH		
Facility ZIP Code:	43931		

Permit Issued By: OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name)
MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov

Permit Notes: Initial installation permit for a 485 MW combined cycle electric generating facility in Monroe County. The emissions units include a combustion turbine with a heat recovery stream generator (HRSG) and duct burners, auxiliary boiler, emergency diesel generator engine, emergency fire pump engine, and an eight-cell mechanical draft low-mist wet cooling tower. The Project will use either a GE Model 7HA.02 (P004), Mitsubishi Model 501JAC (P005) or Siemens Model SCC6-8000H (P006) combustion turbine (CT) with duct firing in the HRSG to increase steam generation in the steam turbine. Only one turbine will be built but each of these turbines are included in this RBLC entry.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	146.6600 (Tons/Year)
Nitrogen Oxides (NOx)	136.5200 (Tons/Year)
Particulate Matter (PM)	94.2100 (Tons/Year)
Sulfur Oxides (SOx)	23.2300 (Tons/Year)
Volatile Organic Compounds (VOC)	80.5100 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B001)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 26.80 MMBTU/H

Process Notes: 26.8 MMBtu/hr natural gas-fired boiler with a low-NOx burner and flue gas recirculation

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.2900 LB/H

Emission Limit 2: 0.7400 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0110 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (A) Flue gas recirculation and low NOX burner
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.9900 LB/H
Emission Limit 2: 2.4800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0370 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.1300 LB/H
Emission Limit 2: 0.3400 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0050 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: EPA/OAR Mthd 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2700 LB/H
Emission Limit 2: 0.6700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0100 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 μ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2700 LB/H
Emission Limit 2: 0.6700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0100 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2700 LB/H
Emission Limit 2: 0.6700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0100 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0030 LB/H
Emission Limit 2: 0.0070 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 1.1000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 7845.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Natural gas as the sole fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency Diesel Generator Engine (P001)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 2206.00 HP
Process Notes: 1,645 kW (2,206 HP) emergency diesel-fired generator to provide on-site emergency power capabilities independent of the utility grid.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 24.7100 LB/H NMHC+NOX. SEE NOTES.
Emission Limit 2: 1.2400 T/YR NMHC+NOX. SEE NOTES.
Standard Emission: 4.8000 G/BHP-H NMHC+NOX. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Non-methane hydrocarbon plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 6.40 g/kW-h (4.8 g/hp-h), 24.71 lb/h and 1.24 t/yr per rolling, 12-month period.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 24.7100 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 1.2400 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Non-methane hydrocarbon plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 6.40 g/kW-h (4.8 g/hp-h), 24.71 lb/h and 1.24 t/yr per rolling, 12-month period.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 12.6400 LB/H

Emission Limit 2: 0.6300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7300 LB/H
Emission Limit 2: 0.0370 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7300 LB/H
Emission Limit 2: 0.0370 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7300 LB/H
Emission Limit 2: 0.0370 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0016 LB/H
Emission Limit 2: 7.9000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.00011 lb/MMBtu

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 116.8000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Efficient design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent during the acceleration mode; 15 percent during the lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

Process/Pollutant Information

PROCESS NAME: Emergency Diesel Fire Pump Engine (P002)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 700.00 HP

Process Notes: 700 hp emergency diesel-fired fire pump to provide on-site firefighting capabilities independent of the utility grid

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 4.9700 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 0.2500 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Nonmethane hydrocarbons plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 4.0 g/kW-hour, 4.97 pounds per hour and 0.25 ton per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.9700 LB/H NMHC+NOX. SEE NOTES.
Emission Limit 2: 0.2500 T/YR NMHC+NOX. SEE NOTES.
Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Nonmethane hydrocarbons plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 4.0 g/kW-hour, 4.97 pounds per hour and 0.25 ton per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 4.0100 LB/H
Emission Limit 2: 0.2000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.6000 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2300 LB/H
Emission Limit 2: 0.0120 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2300 LB/H
Emission Limit 2: 0.0120 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2300 LB/H
Emission Limit 2: 0.0120 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 5.4000 X10-4 LB/H
Emission Limit 2: 2.7000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 1.1000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 40.1000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Efficient design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Wet Mechanical Draft Cooling Tower (P003)

Process Type: 99.009 (Industrial Process Cooling Towers)

Primary Fuel:

Throughput: 120000.00 GAL/M

Process Notes: 8-cell wet cooling tower with a maximum circulating water flow rate of 120,000 gallons per minute (gpm), equipped with a high efficiency drift eliminator.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 6.5800 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) High efficiency drift eliminator designed to achieve a 0.0005% drift rate and total dissolved solids (TDS) content not to exceed 5,000 mg/l.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 4.2400 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) High efficiency drift eliminator designed to achieve a 0.0005% drift rate and total dissolved solids (TDS) content not to exceed 5,000 mg/l.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.5800 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) High efficiency drift eliminator designed to achieve a 0.0005% drift rate and total dissolved solids (TDS) content not to exceed 5,000 mg/l.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: General Electric Combustion Turbine (P004)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3544.00 MMBTU/H

Process Notes: General Electric model 7HA.02 natural gas or natural gas+ethane fired combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,544 MMBtu/hr at 100% load and -5° F exhausting through a heat recovery steam generator (HRSG) controlled with catalytic oxidation and selective catalytic reduction (SCR) used to generate additional electricity. The Project will use either a GE Model 7HA.02 (P004), Mitsubishi Model 501JAC (P005) or Siemens Model SCC6-8000H (P006) combustion turbine (CT) with duct firing in the HRSG to increase steam generation in the steam turbine. Only one turbine will be built but each of these turbines are included in this RBLC entry.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 26.1000 LB/H EXCEPT STARTUP AND SHUTDOWN. SEE NOTES

Emission Limit 2: 125.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (A) dry low NOx burners and an SCR system

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppmvd at 15% oxygen (O2) and 26.1 pounds per hour, excluding periods of startup and shutdown. 125.8 tons of NOx per rolling, 12-month period, including start-up and shutdown emissions. 164.5 lb/h during cold startup, 109.7 lb/h during hot startup, 87.4 lb/h during warm startup, and 27.9 lb/h during shutdown.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 15.9000 LB/H EXCEPT STARTUP AND SHUTDOWN. SEE NOTES

Emission Limit 2: 123.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Oxidation catalyst and good combustion practices as recommended by the manufacturer.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 2.0 ppmvd at 15% oxygen (O2) and 15.9 pounds per hour, excluding periods of startup and shutdown. 123.8 tons of NOx per rolling, 12-month period, including start-up and shutdown emissions. 877.0 lb/h during cold startup, 145.3 lb/h during hot startup, 130.6 lb/h during warm startup, and 137.7 lb/h during shutdown.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25A
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 4.5400 LB/H EXCEPT STARTUP AND SHUTDOWN. SEE NOTES
Emission Limit 2: 26.4000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 1.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Oxidation catalyst and good combustion practices as recommended by the manufacturer.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 1.0 ppmvd at 15% oxygen (O2) and 4.54 pounds per hour, excluding periods of startup and shutdown. 26.4 tons of NOx per rolling, 12-month period, including start-up and shutdown emissions. 78.1 lb/h during cold startup, 11.5 lb/h during hot startup, 12.0 lb/h during warm startup, and 29.6 lb/h during shutdown.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: EPA/OAR Mthd 5
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0036 LB/MMBTU
Emission Limit 2: 12.1000 LB/H
Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) natural gas or a natural gas and ethane mixture only
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 53.0 t/yr per rolling, 12-month period, including start-up and shutdown emissions.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0036 LB/MMBTU
Emission Limit 2: 12.1000 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) natural gas or a natural gas and ethane mixture only
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 53.0 t/yr per rolling, 12-month period, including start-up and shutdown emissions.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0036 LB/MMBTU
Emission Limit 2: 12.1000 LB/H

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 53.0 t/yr per rolling, 12-month period, including start-up and shutdown emissions.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: EPA/OAR Mthd 8

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.0011 LB/MMBTU

Emission Limit 2: 3.7800 LB/H

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 16.56 t/yr per rolling, 12-month period, including start-up and shutdown emissions.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 775.0000 LB/MW-H SEE NOTES.

Emission Limit 2: 1915689.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) high efficiency combustion practices as recommended by the manufacturer
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 775 lb/MW-hr gross energy output at full load ISO conditions when firing natural gas. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads.

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: EPA/OAR Mthd 9
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) natural gas or a natural gas and ethane mixture only
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Mitsubishi Combustion Turbine (P005)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3320.00 MMBTU/H

Process Notes: Mitsubishi Model 501JAC natural gas or natural gas+ethane fired combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,320 MMBtu/hr at 100% load and -5° F exhausting through a heat recovery steam generator (HRSG) with supplemental natural gas-fired duct burners nominally rated at 108 MMBtu/hr controlled with catalytic oxidation and selective catalytic reduction (SCR) used to generate electricity. The Project will use either a GE Model 7HA.02 (P004), Mitsubishi Model 501JAC (P005) or Siemens Model SCC6-8000H (P006) combustion turbine (CT) with duct firing in the HRSG to increase steam generation in the steam turbine. Only one turbine will be built but each of these turbines are included in this RBLC entry.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 25.1000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 119.4000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (A) dry low NOx burners and an SCR system

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 25.10 lb/h with duct burner (except startup and shutdown). 26.4 lb/h without duct burner (except startup and shutdown). 119.4 t/yr per rolling 12 month period for all operating modes, including startup. 68.1 lb/h during cold startup, 55.4 lb/h during warm startup, 34.6 lb/h during hot startup, and 37.9 lb/h during shutdown.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 15.3000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 121.2000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 15.30 lb/h with duct burner (except startup and shutdown). 16.1 lb/h without duct burner (except startup and shutdown). 121.2 t/yr per rolling 12 month period for all operating modes, including startup. 538.6 lb/h during cold startup, 449.4 lb/h during warm startup, 140.7 lb/h during hot startup, and 162.7 lb/h during shutdown.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 8.8000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 79.3000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 8.80 lb/h with duct burner (except startup and shutdown). 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 4.60 lb/h without duct burner (except startup and shutdown). 79.3 t/yr per rolling 12 month period for all operating modes, including startup. 224.7 lb/h during cold startup, 225.1 lb/h during warm startup, 185.9 lb/h during hot startup, and 97.0 lb/h during shutdown.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 12.6000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.004 lb/mmbtu and 12.60 lb/h with duct burner (except startup and shutdown). 0.0037 lb/mmbtu and 12.3 lb/h without duct burner (except startup and shutdown). 55.2 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 12.6000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.004 lb/mmbtu and 12.60 lb/h with duct burner (except startup and shutdown). 0.0037 lb/mmbtu and 12.3 lb/h without duct burner (except startup and shutdown). 55.2 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 12.6000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.004 lb/mmbtu and 12.60 lb/h with duct burner (except startup and shutdown). 0.0037 lb/mmbtu and 12.3 lb/h without duct burner (except startup and shutdown). 55.2 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.0009 LB/MMBTU

Emission Limit 2: 2.8500 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0009 lb/mmbtu. 2.85 lb/h with duct burner (except startup and shutdown). 2.99 lb/h without duct burner (except startup and shutdown). 13.1 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1000.0000 LB/MW-H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 775.0000 LB/MW-H WITHOUT DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) high efficiency combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: With duct burners: 450 kg per MW-h of gross energy output (1,000 lbs/MW-h) on a 12-operating-month rolling average basis, or, if a petition is granted, CO2 emissions shall not exceed 470 kg per MW-h of net energy output (1,030 lbs/MW-h) on a 12-operating- month rolling average basis. [40 CFR 60.5520(a)-(c) and Table 2 of 40 CFR Part 60, Subpart TTTT] Without duct burners: 775 lb/MW-hr gross energy output at full load ISO conditions when firing natural gas. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads. 1,811,235 t/yr per rolling, 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Siemens Combustion Turbine (P006)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3602.00 MMBTU/H

Process Notes: Siemens Model SCC6-8000H natural gas or natural gas+ethane fired combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,602 MMBtu/hr at 100% load and -5° F exhausting through a heat recovery steam generator (HRSG) with supplemental natural gas-fired duct burners nominally rated at 667 MMBtu/hr controlled with catalytic oxidation and selective catalytic reduction (SCR) used to generate electricity. The Project will use either a GE Model 7HA.02 (P004), Mitsubishi Model 501JAC (P005) or Siemens Model SCC6-8000H (P006) combustion turbine (CT) with duct firing in the HRSG to increase steam generation in the steam turbine. Only one turbine will be built but each of these turbines are included in this RBLC entry.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 27.1000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 128.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (A) dry low NOx burners and an SCR system

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 27.10 lb/h with duct burner (except startup and shutdown). 22.4 lb/h without duct burner (except startup and shutdown). 128.8 t/yr per rolling 12 month period for all operating modes, including startup. 72.7 lb/h during cold startup, 87.1 lb/h during warm startup, 77.7 lb/h during hot startup, and 44.8 lb/h during shutdown.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 16.5000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 142.6000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 16.5 lb/h with duct burner (except startup and shutdown). 13.6 lb/h without duct burner (except startup and shutdown). 142.6 t/yr per rolling 12 month period for all operating modes, including startup. 447.9 lb/h during cold startup, 439.9 lb/h during warm startup, 370.3 lb/h during hot startup, and 118.5 lb/h during shutdown.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 9.5000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 50.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 9.5 lb/h with duct burner (except startup and shutdown). 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 3.9 lb/h without duct burner (except startup and shutdown). 50.8 t/yr per rolling 12 month period for all operating modes, including startup. 40.4 lb/h during cold startup, 40.2 lb/h during warm startup, 40.7 lb/h during hot startup, and 39.4 lb/h during shutdown.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0057 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 19.8000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0057 lb/mmbtu and 19.8 lb/h with duct burner (except startup and shutdown). 0.006 lb/mmbtu and 13 lb/h without duct burner (except startup and shutdown). 86.7 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0057 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 19.8000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0057 lb/mmbtu and 19.8 lb/h with duct burner (except startup and shutdown). 0.006 lb/mmbtu and 13 lb/h without duct burner (except startup and shutdown). 86.7 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0057 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 19.8000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0057 lb/mmbtu and 19.8 lb/h with duct burner (except startup and shutdown). 0.006 lb/mmbtu and 13 lb/h without duct burner (except startup and shutdown). 86.7 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: EPA/OAR Mthd 8

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 5.2000 X10-4 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 1.8100 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.00052 lb/mmbtu and 1.81 lb/h with duct burner (except startup and shutdown). 0.00055 lb/mmbtu and 1.5 lb/h without duct burner (except startup and shutdown). 7.9 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1000.0000 LB/MW-H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 775.0000 LB/MW-H WITHOUT DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) high efficiency combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 450 kg per MW-h of gross energy output (1,000 lbs/MW-h) on a 12-operating-month rolling average basis, or, if a petition is granted, CO2 emissions shall not exceed 470 kg per MW-h of net energy output (1,030 lbs/MW-h) on a 12-operating- month rolling average basis. [40 CFR 60.5520(a)-(c) and Table 2 of 40 CFR Part 60, Subpart TTTT] 775 lb/MW-hr gross energy output at full load ISO conditions when firing natural gas. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads. 1,962,130 tons of CO2e emissions per rolling, 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	OH-0372 (final)	**Date Determination**	
		Last Updated:	06/19/2019
Corporate/Company Name:	OREGON ENERGY CENTER	**Permit Number:**	P0121049
Facility Name:	OREGON ENERGY CENTER	**Permit Date:**	09/27/2017 (actual)
Facility Contact:	WILLIAM SIDEREWICZ (617)501-7094 BILLS@PERPOWER.COM	**FRS Number:**	Not Found

Facility Description:	Combined cycle gas turbine (CCGT) facility	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	LUCAS		
Facility State:	OH		
Facility ZIP Code:	43616		

Permit Issued By: OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name)
MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov

Permit Notes: Installation of natural gas-fired combined cycle combustion turbine power plant.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	275.1000 (Tons/Year)
Nitrogen Oxides (NOx)	241.3000 (Tons/Year)
Particulate Matter (PM)	135.0000 (Tons/Year)
Sulfur Oxides (SOx)	43.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	101.4000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B001)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 37.80 MMBTU/H

Process Notes: 37.8 mmBtu/hr natural gas fired auxiliary boiler with low- NOX burners and flue gas recirculation

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.0800 LB/H

Emission Limit 2: 2.0800 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0550 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.7600 LB/H
Emission Limit 2: 0.7600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0200 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low NOX burners and flue gas recirculation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3000 LB/H
Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0080 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3000 LB/H
Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0080 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Other
Other Test Method: 40 CFR 60.4415
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0600 LB/H
Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 1.5000 X10-3 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0040 LB/H
Emission Limit 2: 0.0040 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 1.1500 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2300 LB/H
Emission Limit 2: 0.2300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0060 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 4502.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) use of natural gas, good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency generator (P003)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 1529.00 HP
Process Notes: 1,000 kWe (1,140 kW mechanical) emergency diesel-fired generator

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 8.8000 LB/H
Emission Limit 2: 2.2000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.6000 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 16.1000 LB/H

Emission Limit 2: 4.0200 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 4.8000 G/B-HP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) State-of-the-art combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 6.4 g/kW-hr (4.8 g/hp-hr). NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 6.4 g/kW-hr.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 2.0000 LB/H

Emission Limit 2: 0.5000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.5900 G/B-HP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) State-of-the-art combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 0.79 g/kW-hr (0.59 g/hp-hr). NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 6.4 g/kW-hr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5000 LB/H
Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5000 LB/H
Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0160 LB/H
Emission Limit 2: 4.0000 X10-3 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 3.3000 X10-4 LB/H
Emission Limit 2: 8.3000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 9.6000 X10-5 G/HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 1.32x10-4 g/kW-hr (9.6x10-5 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 445.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) state of the art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule. NSPS: Exhaust opacity shall not exceed: 20 percent during acceleration mode; 15 percent during lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

Process/Pollutant Information

PROCESS NAME: Emergency fire pump engine (P004)

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 300.00 HP

Process Notes: 300 hp emergency diesel-fired fire pump

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 1.7300 LB/H

Emission Limit 2: 0.4300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/B-HP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) state of the art combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 1.9700 LB/H
Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 3.0000 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 4.0 g/kW-hr (3.0 g/hp-hr). NSPS is Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/H
Emission Limit 2: 0.0200 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/H
Emission Limit 2: 0.0200 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2400 LB/H
Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.3700 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 0.5 g/kW-hr (0.37 g/hp-hr). NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 3.2000 X10-3 LB/H
Emission Limit 2: 1.0000 X10-3 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 6.5000 X10-5 LB/H
Emission Limit 2: 1.6000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 9.6000 X10-5 G/HP-HR SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 1.3x10-4 g/kW-hr (9.6x10-5 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e

Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 87.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Wet Cooling Tower (P005)

Process Type: 99.009 (Industrial Process Cooling Towers)

Primary Fuel:

Throughput: 155083.00 GAL/M

Process Notes: 10-cell wet cooling tower equipped with a high efficiency drift eliminator

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.9300 LB/H

Emission Limit 2: 4.0700 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.3600 LB/H

Emission Limit 2: 1.5800 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Combined Cycle Combustion Turbines (two, identical) (P001 and P002)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3055.00 MMBTU/H

Process Notes: Combined cycle combustion turbine (3,055 mmBtu/hr heat input turbine at ISO conditions and 221.3 mmBtu/hr heat input duct burner) with dry low NOX combustors, selective catalytic reduction (SCR), and catalytic oxidation. All heat values are on a HHV basis. Throughputs and limits are for single turbine except as noted.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 15.5000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 135.1900 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and good combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 15.5 lb/h with duct burner (except startup and shutdown). 14.6 lb/h without duct burner (except startup and shutdown). 135.19 t/yr per rolling 12 month period for all operating modes, including startup. 526 lb/h during cold startup, 436 lb/h during hot startup, 496 lb/h during warm startup, and 150 lb/h during shutdown.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 401921.0000 LB/H SEE NOTES.
Emission Limit 2: 1689461.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) high efficiency combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 833 lb/MW-hr (pounds per megawatt-hour) gross energy output (at full load ISO conditions without duct firing) and 401,921 lb/hr (maximum under any condition with duct firing). 1,689,461 t/yr per rolling 12 month period for all operating modes, including startup and shutdown.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 25.3000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 118.0200 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (B) Dry low NOX combustors and selective catalytic reduction (SCR)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 25.3 lb/h with duct burner (except startup and shutdown). 23.8 lb/h without duct burner (except startup and shutdown). 118.02 t/yr per rolling 12 month period for all operating modes, including startup. 162 lb/h during cold startup, 78.7 lb/h during hot startup, 113 lb/h during warm startup, and 57.3 lb/h during shutdown.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 8.8000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 50.2800 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and good combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen, with duct burner. 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen, without duct burner. 8.8 lb/h with duct burner. 4.1 lb/h without duct burner. Each limit except startup and shutdown. 50.28 t/yr per rolling 12 month period for all operating modes, including startup. 64.4 lb/h during cold startup, 60.1 lb/h during hot startup, 59.6 lb/h during warm startup, and 62.8 lb/h during shutdown.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 5.1000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 21.4600 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 1.5x10-3 lb/mmbtu. 5.1 lb/h with duct burner (except startup and shutdown). 4.8 lb/h without duct burner (except startup and shutdown). 21.46 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 3.7000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 15.7700 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 1.1x10-3 lb/mmbtu. 3.7 lb/h with duct burner (except startup and shutdown). 3.5 lb/h without duct burner (except startup and shutdown). 15.77 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 15.4000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 65.2600 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 4.6x10-3 lb/mmbtu with duct burners. 6.0x10-3 lb/mmbtu without duct burners. 15.4 lb/h with duct burner (except startup and shutdown). 14.0 lb/h without duct burner (except startup and shutdown). 65.26 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 15.4000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 65.2600 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 4.6x10-3 lb/mmbtu with duct burners. 6.0x10-3 lb/mmbtu without duct burners. 15.4 lb/h with duct burner (except startup and shutdown). 14.0 lb/h without duct burner (except startup and shutdown). 65.26 t/yr per rolling 12 month period for all operating modes, including startup.

Facility Information

RBLC ID:	OH-0370 (final)	**Date Determination Last Updated:**	06/19/2019
Corporate/Company Name:	TRUMBULL ENERGY CENTER	**Permit Number:**	P0122331
Facility Name:	TRUMBULL ENERGY CENTER	**Permit Date:**	09/07/2017 (actual)
Facility Contact:	WILLIAM SIDEREWICZ (617)501-7094 BILLS@PERPOWER.COM	**FRS Number:**	Not Found
Facility Description:	940 MW combined cycle gas turbine (CCGT) facility	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	TRUMBULL		
Facility State:	OH		
Facility ZIP Code:	44481		

Permit Issued By: OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name)
MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov

Permit Notes: Permit-to-install for the construction of the Trumbull Energy Center, a nominal 940 megawatt (MW) combined cycle gas turbine (CCGT) facility to be located in the Village of Lordstown, Ohio.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	275.1000 (Tons/Year)
Nitrogen Oxides (NOx)	240.5000 (Tons/Year)
Particulate Matter (PM)	135.2000 (Tons/Year)
Sulfur Oxides (SOx)	42.1000 (Tons/Year)
Volatile Organic Compounds (VOC)	101.4000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B001)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 37.80 MMBTU/H

Process Notes: Auxiliary Boiler 37.8 MMBtu/hr

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.0800 LB/H
Emission Limit 2: 2.0800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0550 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.7600 LB/H
Emission Limit 2: 0.7600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0200 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Flue gas recirculation (FGR), low NOx burner
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3000 LB/H
Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0080 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3000 LB/H
Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0080 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.2300 LB/H

Emission Limit 2: 0.2300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0060 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion controls

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0600 LB/H

Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 1.5000 X10-3 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: EPA/OAR Mthd 8

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.0087 LB/H

Emission Limit 2: 0.0087 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.3000 X10-4 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 4456.0000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion controls/natural gas combustion

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Combined Cycle Combustion Turbines (two, identical) (P001 and P002)
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: Natural gas
Throughput: 3025.00 MMBTU/H
Process Notes: Two identical combined cycle combustion turbine (3,025 mmBtu/hr heat input turbine at ISO conditions and 237 mmBtu/hr heat input duct burner) with dry low NOx combustors, selective catalytic reduction (SCR), and catalytic oxidizer. Throughputs and limits are for single turbine except as noted.

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:

Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion controls and low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 833.0000 LB/MW-H SEE NOTES.
Emission Limit 2: 1683213.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) High efficient combustion technology
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 833 lb/MW-hr gross energy output (at full load ISO conditions without duct firing). 884 lbs/ MW-hr gross energy output (maximum under any full load condition with duct firing). 401,084 lb/hr (maximum under any condition with duct firing). 1,683,213 T/YR per rolling 12 month period all operating modes, including startup and shutdown periods.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 15.5000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 135.2000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Good combustion controls and oxidation catalyst
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 15.5 lb/h with duct burner. 14.6 lb/h without duct burner. Each limit except startup and shutdown). 135.2 t/yr per rolling 12 month period for all operating modes, including startup and shutdown. 526.0 lb/h during cold startup, 436.0 lb/h during hot startup, 496.0 lb/h during warm startup, and 159.0 lb/h during shutdown.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 25.3000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 117.6000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) dry low NOx combustors (DLN) and selective catalytic reduction (SCR)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen, 25.3 lb/h with duct burner, 23.8 lb/h without duct burner (each limit except startup and shutdown). 117.6 t/yr per rolling 12 month period for all operating modes, including startup and shutdown. 162.0 lb/h during cold startup, 78.7 lb/h during hot startup, 113.0 lb/h during warm startup, and 72.7 lb/h during shutdown.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 8.8000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 50.3000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion controls and oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen with duct burner, 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen without duct burner, 8.8 lb/h with duct burner, 4.1 lb/h without duct burner (each limit except startup and shutdown). 50.3 t/yr per rolling 12 month period for all operating modes, including startup and shutdown. 64.4 lb/h during cold startup, 60.1 lb/h during hot startup, 59.6 lb/h during warm startup, and 67.9 lb/h during shutdown.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 5.1000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 21.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 1.5x10-3 lb/mmbtu, 5.1 lb/h with duct burner, 4.8 lb/h without duct burner (each limit except startup and shutdown). 21.0 t/yr per rolling 12 month period for all operating modes, including startup and shutdown.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 3.7000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 15.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 1.1x10-3 lb/mmbtu, 3.7 lb/h with duct burner, 3.5 lb/h without duct burner (each limit except startup and shutdown). 15.8 t/yr per rolling 12 month period for all operating modes, including startup and shutdown.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 15.2000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 64.4000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion controls and low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 4.6x10-3 lb/mmbtu with duct burners, 6.0x10-3 lb/mmbtu without duct burners, 15.2 lb/h with duct burner, 12.9 lb/h without duct burner (each limit except startup and shutdown). 64.4 t/yr per rolling 12 month period for all operating modes, including startup and shutdown.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 15.2000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 64.4000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion controls and low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 4.6x10-3 lb/mmbtu with duct burners, 6.0x10-3 lb/mmbtu without duct burners, 15.2 lb/h with duct burner, 12.9 lb/h without duct burner (each limit except startup and shutdown). 64.4 t/yr per rolling 12 month period for all operating modes, including startup and shutdown.

Process/Pollutant Information

PROCESS NAME: Emergency generator (P003)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 1529.00 HP

Process Notes: Emergency Generator 1000 kW (electrical), 1,140 kW (mechanical), 1,529 hp

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 8.8000 LB/H

Emission Limit 2: 2.2000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) State-of-the-art combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 3.5 g/kW-hr.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 16.0700 LB/H

Emission Limit 2: 4.0200 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) State-of-the-art combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 6.4 g/kW-hr. NSPS limit is Non-methane hydrocarbon (NMHC) + NOx emissions shall not exceed 6.4 g/kW-hr.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 2.0000 LB/H
Emission Limit 2: 0.5000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.79 g/kW-hr. Non-methane hydrocarbon (NMHC) + NOx emissions shall not exceed 6.4 g/kW-hr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5000 LB/H
Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.20 g/kW-hr.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5000 LB/H
Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.20 g/kW-hr.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0160 LB/H
Emission Limit 2: 4.0000 X10-3 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 3.3000 X10-4 LB/H
Emission Limit 2: 8.3000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 1.32x10-04 g/kW-hr.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 445.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Efficient design

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SIP: 20 percent opacity as a 6-minute average, except as specified by rule. NSPS: Exhaust opacity shall not exceed: 20 percent during acceleration mode; 15 percent during lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

Process/Pollutant Information

PROCESS NAME: Emergency fire pump engine (P004)
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 300.00 HP
Process Notes: Emergency Fire Pump 300 hp (224 kW mechanical)

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 1.7300 LB/H
Emission Limit 2: 0.4300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 3.5 g/kW-hr.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 1.9700 LB/H
Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 4.0 g/kW-hr. NSPS: Non-methane hydrocarbon (NMHC) + NOx emissions shall not exceed 4.0 g/kW-hr.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2400 LB/H
Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.5 g/kW-hr. NSPS: Non-methane hydrocarbon (NMHC) + NOx emissions shall not exceed 4.0 g/kW-hr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/H
Emission Limit 2: 0.0300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.20 g/kW-hr.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1000 LB/H

Emission Limit 2: 0.0300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Ultra low sulfur diesel fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 0.20 g/kW-hr.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 3.2000 X10-3 LB/H

Emission Limit 2: 1.0000 X10-3 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Ultra low sulfur diesel fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 6.5000 X10-5 LB/H

Emission Limit 2: 1.6000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Ultra low sulfur diesel fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 1.32x10-04 g/kW-hr.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Ultra low sulfur diesel fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 87.0000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Efficient design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Wet Cooling Tower (P005)

Process Type: 99.009 (Industrial Process Cooling Towers)

Primary Fuel:

Throughput: 155083.00 GAL/M

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.3600 LB/H

Emission Limit 2: 5.9500 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.5400 LB/H

Emission Limit 2: 2.3800 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	MI-0426 (final)	**Date Determination Last Updated:**	03/08/2018
Corporate/Company Name:	DTE GAS COMPANY	**Permit Number:**	185-15A
Facility Name:	DTE GAS COMPANY - MILFORD COMPRESSOR STATION	**Permit Date:**	03/24/2017 (actual)
Facility Contact:	BARRY MARIETTA 313-235-5611 MARIETTAB@DTEENERGY.COM	**FRS Number:**	Not Found
Facility Description:	Natural gas compressor station.	**SIC Code:**	4922
Permit Type:	B: Add new process to existing facility	**NAICS Code:**	486210
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	OAKLAND		
Facility State:	MI		
Facility ZIP Code:	48042		
Permit Issued By:	MICHIGAN DEPT OF ENVIRONMENTAL QUALITY (Agency Name) MS. CINDY SMITH(Agency Contact) (517)284-6802 SMITHC17@MICHIGAN.GOV		
Other Agency Contact Info:	Please contact the permit engineer, Ms. Catherine Asselin, at 517-284-6786 or at asselinc@michigan.gov, for technical questions regarding this permit. Thank you.		
Permit Notes:	This permit, 185-15A, was for minor changes to the project permitted in PTI 185-15. The emergency engine and heating equipment were modified. The permit includes equipment not entered into the RBLC due to a lack of emission limits or material limits; these include four heaters and a furnace for comfort heating and one water heater.		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	162.6000 (Tons/Year)
Nitrogen Oxides (NOx)	103.5000 (Tons/Year)
Particulate Matter (PM)	20.3000 (Tons/Year)
Sulfur Oxides (SOx)	5.8000 (Tons/Year)

Volatile Organic Compounds (VOC) 15.6000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: FGTURNBINES (5 Simple Cycle CTs: EUTURBINE1, EUTURBINE2, EUTURBINE3, EUTURBINE4, EUTURBINE5)

Process Type: 16.110 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 10504.00 HP

Process Notes: Five simple cycle natural gas-fired combustion turbines (CTs) to drive compressors that will be used to transport natural gas through pipelines (EUTURBINE1, EUTURBINE2, EUTURBINE3, EUTURBINE4, EUTURBINE5 in FGTURBINES). There shall be no more than a combined total of 5 events (startup or shutdown) per clock hour. The total number of startup events for all units combined shall not exceed 500 events per 12-month rolling time period. The total number of shutdown events for all units combined shall not exceed 500 events per 12-month rolling time period. The maximum nominal rating of each turbine shall not exceed 10,504 HP (ISO).

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 15.0000 PPM

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP , NSPS

Control Method: (A) Dry ultra-low NOx burners.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit is 15 ppmvd for each turbine. The BACT emission limit subsumes the NSPS emission limit of 25 ppm at 15 percent O2. Normal baseload operation is considered to be loads greater than 50 percent of peak load and at or above 0 deg F. Startup and shutdown is considered to be the ramping up or ramping down of the turbines through loads 50 percent or less. There is also an emission limit for the NSPS that allows 150 ppmvd for each unit when operating at less than 75 percent of peak load and at temperatures less than 0 deg F. Selective catalyst reduction (SCR) was $58,300/ton of controlled NOx for each turbine separately and Selective Non-Catalytic Reduction (SNCR) was $46,200/ton of controlled NOx for each turbine separately. SCR was

$33,400-$58,300 per ton of controlled NOx for all turbines combined, depending on control efficiency.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 25.0000 PPM

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices and clean burn fuel (pipeline quality natural gas).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit is 25 ppmvd for each turbine. The BACT emission limit is for normal operation. Normal baseload operation is considered to be loads greater than 50 percent of peak load and at or above 0 deg F. The emission limit does not include startup and shutdown or temperatures below 0 deg F. Startup and shutdown is considered to be the ramping up or ramping down of the turbines through loads 50 percent or less. An oxidation catalyst was $10,162/ton of controlled CO.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0150 LB/MMBTU

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Combustion air inlet filter, pipeline quality natural gas and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit of 0.015 lb/MMBTU is for each turbine. The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM10 emissions were assumed the same as PM2.5, so the cost analysis was equivalent. Pulse Jet Fabric Filter Baghouse: minimum of $66,121 per ton Dry ESP (Wire-Plate Type): minimum of $47,084 per ton Wet ESP (Wire-Plate Type): minimum of $82,395 per ton Venturi Scrubber: minimum of $56,032 per ton.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0150 LB/MMBTU

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Combustion air inlet filter, pipeline quality natural gas, and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit is 0.015 LB/MMBTU for each turbine. The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM10 emissions were assumed the same as PM2.5, so the cost analysis was equivalent. Pulse Jet Fabric Filter Baghouse: minimum of $66,121 per ton Dry ESP (Wire-Plate Type): minimum of $47,084 per ton Wet ESP (Wire-Plate Type): minimum of $82,395 per ton Venturi Scrubber: minimum of $56,032 per ton.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 196998.0000 T/YR 12-MO. ROLLING TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Use of pipeline quality natural gas and energy efficiency measures.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit of 196,998 T/YR based on a 12-month rolling time period as determined at the end of each calendar month is combined for all turbines. The carbon capture and sequestration cost analysis was based upon the review performed for a different project. Key parameters were altered to make the analysis site-specific. Depending on how conservative the review was, the cost was between $191 per ton of controlled combined CO2e and $640 per ton of controlled combined CO2e. Terrestrial sequestration was $162 per ton of controlled combined CO2e and does not include annual maintenance costs. Neither were considered to be economically feasible.

Process/Pollutant Information

PROCESS NAME: FGAUXBOILERS (6 auxiliary boilers EUAUXBOIL2A, EUAUXBOIL3A, EUAUXBOIL2B, EUAUXBOIL3B, EUAUXBOIL2C, EUAUXBOIL3C)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 3.00 MMBTU/H

Process Notes: Four natural gas-fired auxiliary boilers, each rated at 3 MMBTU/H fuel heat input (EUAUXBOIL2A, EUAUXBOIL3A, EUAUXBOIL2B and EUAUXBOIL3B in FGAUXBOILERS) and two natural gas-fired auxiliary boilers, each rated at 1 MMBTU/H fuel heat input (EUAUXBOIL2C and EUAUXBOIL3C in FGAUXBOILERS). The boilers are subject to 40 CFR Part 63 Subpart DDDDD which requires tune ups.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 20.0000 PPM AT 3% O2 EACH 3 MMBTU/H BOILER

Emission Limit 2: 9.0000 PPM AT 3% O2 EACH 1 MMBTU/H BOILER

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Ultra-low NOx burners and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Emission limit 1 above is 20 ppmvd at 3% O2 for each 3 MMBTU/H boiler and Emission limit 2 above is 9 ppmvd at 3% O2 for each 1 MMBTU/H boiler. Selective catalyst reduction (SCR) was $117,718/ton of controlled NOx.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 84.0000 LB/MMSCF EACH BOILER
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and clean burn fuel (pipeline quality natural gas).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst was $19,200/ton of controlled CO and VOC.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5200 LB/MMSCF EACH BOILER
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and low sulfur fuel (pipeline quality natural gas).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The cost analysis was for multiple control types with a minimum cost of $500,000.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5200 LB/MMSCF EACH BOILER
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and low sulfur fuel (pipeline quality natural gas).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The cost analysis was for multiple control types with a minimum of $500,000.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 7324.0000 T/YR COMBINED FOR ALL BOILERS
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Use of pipeline quality natural gas and energy efficiency measures.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit above is 7324 T/YR combined for all boilers in FGAUXBOILERS. Carbon capture and sequestration was technically infeasible for small, intermittent sources. Terrestrial sequestration was $162 per ton of controlled combined CO2e and does not include annual maintenance costs.

Process/Pollutant Information

PROCESS NAME: EUN_EM_GEN (Natural gas emergency engine).

Process Type: 17.130 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 205.00 H/YR

Process Notes: A nominally rated 1,300 electrical kilowatts (ekW) output emergency genset containing a 1,818 HP natural gas fueled engine manufactured in 2011 or later. The engine is used to provide electrical power to the station and support equipment in the event power from the public utility grid system is lost (EUN_EM_GEN). Restricted to 205 hours/year on a 12-month rolling time period basis.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 4.0000 LB/H

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Low NOx design (turbo charger and after cooler) and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: There is also an NSPS limit of 2.0 g/HP-hr or 160 ppmvd; the g/HP-hr limit is demonstrated through manufacturer certification, and the ppmvd limit is demonstrated through compliance testing.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 11.0000 LB/H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and clean burn fuel (pipeline quality natural gas).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: There is also an NSPS limit of 4.0 g/HP-hr or 540 ppmvd; the g/HP-hr limit is demonstrated through manufacturer certification, and the ppmvd limit is demonstrated through compliance testing. An oxidation catalyst was $9,134/ton of controlled CO.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0100 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices and low sulfur fuel (pipeline quality natural gas).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Add-on control was determined to be technically infeasible for the emergency engine.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0100 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and low sulfur fuel (pipeline quality natural gas).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Add-on control was determined to be technically infeasible for the emergency engine.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 247.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method:	(P) Use of pipeline quality natural gas and energy efficiency measures.
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	No
Pollutant/Compliance Notes:	Carbon capture and sequestration was technically infeasible for small, intermittent sources. Terrestrial sequestration was $162 per ton of controlled combined CO2e and does not include annual maintenance costs.

COMPREHENSIVE REPORT
Report Date:07/17/2020

Facility Information

RBLC ID:	IL-0130 (final)	**Date Determination Last Updated:**	04/16/2020
Corporate/Company Name:	JACKSON GENERATION, LLC	**Permit Number:**	17040013
Facility Name:	JACKSON ENERGY CENTER	**Permit Date:**	12/31/2018 (actual)
Facility Contact:	JAMES KIEFER 847-908-2833 JKEIFER@POWERUSA.COM	**FRS Number:**	Not Found
Facility Description:	The proposed facility is designed to generate baseload power. It will consist of two combined-cycle generating units, each with a combustion turbine and associated heat recovery steam generator (HRSG). The turbines would only burn natural gas. Other units include an auxiliary boiler, fuel heater, emergency engines, natural gas piping and components, circuit breakers and roadways	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	WILL		
Facility State:	IL		
Facility ZIP Code:	60421		
Permit Issued By:	ILLINOIS EPA, BUREAU OF AIR (Agency Name) MR. RAY PILAPIL(Agency Contact) (217) 782-2113 ray.pilapil@illinois.gov		
Permit Notes:	Additional pollutants: Sulfuric Acid Mist: 48 tons/year; GHG as CO2e: 4,752,085 tons/year		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	226.0000 (Tons/Year)
Nitrogen Oxides (NOx)	294.0000 (Tons/Year)
Particulate Matter (PM)	107.0000 (Tons/Year)
Sulfur Oxides (SOx)	33.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	86.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Combined-Cycle Combustion Turbine

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural Gas

Throughput: 3864.00 mmBtu/hr

Process Notes: Combined-cycle combustion turbines with heat recovery steam generator (HRSG). Turbines will have inlet evaporative cooling systems to cool inlet air during warm weather to increase power output.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMV 3-UNIT OPERATING HOURS @ 15% O2

Emission Limit 2: 2.0000 PPMV 1-UNIT OPERATING HOUR @ 15% O2

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER

Other Applicable Requirements:

Control Method: (A) Selective Catalytic Reduction (SCR) and low-NOx technology (dry low-NOx combustion technology)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is applicable for first 36 months of operation. Emission Limit 2 is applicable beginning 36 months after commissioning of turbines. Pounds/hour limits without duct burner are: 30.5 (normal operation), 180.3 (startup/shutdown/commissioning) and 91.5 (tuning). Pounds/hour limits with duct burner are: 33.9 (normal operation, 33.9 (startup/shutdown/commissioning) and 91.5 (tuning). All pounds/hour limits for normal operation apply on a 3-hour average. Pounds/hour limits for startup/shutdown/commissioning and tuning apply on a 1-hour average. See also Condition 2.1.6(a)(iv) of the issued permit.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.0000 PPMV 3 OPERATING HOUR AVERAGE @ 15% O2

Emission Limit 2: 211.5000 PPMV 3 OPERATING HOUR AVERAGE @ 15% O2

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limits 1 is applicable when operating with duct burner. Emission Limit 2 is applicable without the duct burner, after 36 months from initial operation. Pounds/hour limit without duct burner is 30.5, 3-hour average. Pounds/hour limit with duct burner is 33,9, 3-hour average. Emission Limits 1 and 2 and pounds/hour limits do not apply during startup/shutdown/commissioning and tuning. Pounds/hour limit for startup/shutdown/commissioning is 483.5. Pounds/hour limit for tuning is 239. Pounds/hour limit for period of very low load is 20.6

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0026 LB/MMBTU 3-HR BLOCK AVERAGE

Emission Limit 2: 0.0042 LB/MMBTU 3-HR BLOCK AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is applicable to PM. Emission Limit 2 is applicable to PM10/PM2.5. For PM, pounds/hour emission limits for startup/shutdown/commissioning are 11.5 (without duct burner) and 12.3 (with duct burner). For PM10/PM2.5, pounds/hour emission limits for startup/shutdown/commissioning are 12.4 (without duct burner) and 19.8 (with duct burner)

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 5.0000 POUNDS/HOUR 3-HR BLOCK AVG
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 4733910.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Equipment design and proper operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: CO2 emissions of each turbine shall not exceed 1,000 lb/MWh of gross energy output, or, alternatively, 1,030 lb/MWh of net energy output on a 12-month rolling average basis.

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural Gas

Throughput: 96.00 mmBtu/hr

Process Notes: The auxiliary boiler is used on an intermittent basis (up to 2,000 hours/year) to produce intermediate pressure steam for heating the heat recovery steam generators (HRSGs) and steam turbines

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0100 LB/MMBTU 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER

Other Applicable Requirements:

Control Method: (B) Ultra low-NOx burners and flue gas recirculation air preheater, automated combustion management systems, automated water blowdown, good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0370 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU 3-HOUR AVERAGE
Emission Limit 2: 0.0019 LB/MMBTUD 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission Limit 1 applies to PM10/PM2.5. Emission Limit 2 applies to PM.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.1000 POUNDS/HOUR
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 11250.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Fuel Heater
Process Type: 19.600 (Misc. Boilers, Furnaces, Heaters)
Primary Fuel: Natural Gas
Throughput: 13.00 mmBtu/hour

Process Notes: Indirectly heats the natural gas fuel for the combustion turbines. This natural gas must be heated to counteract the cooling the cooling that occurs when the pressure of the gas is reduced.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0110 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (A) Low-NOx combustion technology
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0800 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission Limit 1 applies for PM, PM10 and PM2.5

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Cond. Test Mthd 013B
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0140 POUNDS/HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 6700.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Firewater Pump Engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Ultra-Low Sulfur Diesel
Throughput: 420.00 horsepower
Process Notes: One engine will power the pump in the firewater system. The fuel must meet the requirements of 40 CFR 80.510(b) pursuant to 40 CFR 60.4207(b).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 4.0000 G/KW-HR
Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: LAER

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS Subpart IIII limit of 4.0 g/kW-hr is LAER

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 3.5000 G/KW-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS Subpart IIII limit of 3.5 g/kW-hr is BACT

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 G/KW-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS Subpart IIII emission limit of 0.20 g/kW-hr is BACT. This limit applies to PM/PM10/PM2.5

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 241.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 applies for firewater pump engine and emergency engine

Process/Pollutant Information

PROCESS NAME: Emergency Engine

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Ultra-Low Sulfur Diesel

Throughput: 1500.00 kW

Process Notes: One large emergency engine-generator at the plant; one small emergency engine-generator at the switchyard. Fuel must meet the requirements at 40 CFR 80.510(b) pursuant to 40 CFR 60.4207(b)

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 6.4000 G/KW-HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII limit of 6.4 g/kW-hr is LAER

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII limit of 3.5 g/kW-hr is BACT

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII limit of 0.20 g/kW-hr is BACT

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 225.0000 TONS/YEAR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Applies as combination of emergency engine and fire pump engine

Process/Pollutant Information

PROCESS NAME: Natural Gas Piping and Components
Process Type: 50.001 (Oil and Gas Field Services)
Primary Fuel:
Throughput: 0
Process Notes: Methane may leak from components, such as flanges and valves

POLLUTANT NAME: Methane
CAS Number: 74-82-8
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)
Emission Limit 1: 4.3000 TONS/YEAR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Leak Detection and Repair Program (LDAR), use of "leakless" components.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Use 40 CFR 60 Subpart VVa methods. A leak is a methane concentration of 2000 ppm or more

Process/Pollutant Information

PROCESS NAME: Circuit Breakers
Process Type: 99.999 (Other Miscellaneous Sources)

Primary Fuel:

Throughput: 0

Process Notes: Electric switchgear includes circuit breakers that uses gaseous sulfur hexafluoride (SF6) as a dielectric or insulating material. Emissions may result from SF6 leaks.

POLLUTANT NAME: Sulfur Hexafluoride

CAS Number: 2551-62-4
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 0.5000 PERCENT LEAK RATE CALENDAR YEAR AVERAGE
Emission Limit 2: 10.0000 POUNDS/YEAR 12-MONTH ROLLING AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Compliance with limits demonstrated using methods in 40 CFR 98 Subpart DD.

Process/Pollutant Information

PROCESS NAME: Roadways

Process Type: 99.140 (Paved Roads)

Primary Fuel:

Throughput: 0

Process Notes: Roadways that serve trucks delivering bulk materials, e.g., deionized water for the combustion turbines or selective catalytic reduction (SCR) reagent.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified

Pollutant Group(s):	(Particulate Matter (PM))
Emission Limit 1:	10.0000 PERCENT OPACITY
Emission Limit 2:	
Standard Emission:	
Did factors, other then air pollution technology considerations influence the BACT decisions:	U
Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(N)
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	Paving required for roads used by trucks that transport bulk materials.

Facility Information

RBLC ID:	IN-0294 (final)	**Date Determination**	
		Last Updated:	10/09/2018
Corporate/Company Name:	ST. JOSEPH ENERGY CENTER, LLC	**Permit Number:**	141-39839-00579
Facility Name:	ST. JOSEPH ENERGY CENTER, LLC	**Permit Date:**	08/08/2018 (actual)
Facility Contact:	JOSEPH RUGGIERO 518-852-1746	**FRS Number:**	not found
Facility Description:		**SIC Code:**	4911
Permit Type:	U: Unspecified	**NAICS Code:**	221119
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	ST. JOSEPH		
Facility State:	IN		
Facility ZIP Code:	46552		
Permit Issued By:	INDIANA DEPT OF ENV MGMT, OFC OF AIR (Agency Name) MR. MATT STUCKEY(Agency Contact) (317) 233-0203 mstuckey@idem.in.gov		
Permit Notes:			

Process/Pollutant Information

PROCESS NAME:	Circuit Breakers SF6
Process Type:	99.999 (Other Miscellaneous Sources)
Primary Fuel:	
Throughput:	0
Process Notes:	

POLLUTANT NAME:	Sulfur Hexafluoride
CAS Number:	2551-62-4
Test Method:	Unspecified
Pollutant Group(s):	(Greenhouse Gasses (GHG))
Emission Limit 1:	
Emission Limit 2:	
Standard Emission:	
Did factors, other then air pollution technology considerations influence the BACT decisions:	U
Case-by-Case Basis:	OTHER CASE-BY-CASE
Other Applicable Requirements:	
Control Method:	(N)
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	Certified leak rate

Facility Information

RBLC ID:	IL-0129 (final)	**Date Determination Last Updated:**	02/19/2019
Corporate/Company Name:	CPV THREE RIVERS, LLC	**Permit Number:**	16060032
Facility Name:	CPV THREE RIVERS ENERGY CENTER	**Permit Date:**	07/30/2018 (actual)
Facility Contact:	MIKE BRUNO 781-817-8972 MBRUNO@CPV.COM	**FRS Number:**	Not Found

Facility Description:	The proposed facility is designed to generate baseload power. It will consist of two combined-cycle generating units, each with a combustion turbine and associated heat recovery steam generator (HRSG). The turbines would burn natural gas and ultra-low sulfur diesel (ULSD) as a backup fuel. Other units include an auxiliary boiler, fuel heater, engines, natural gas piping and components, circuit breakers and roadways.	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	GRUNDY		
Facility State:	IL		
Facility ZIP Code:	60450		
Permit Issued By:	ILLINOIS EPA, BUREAU OF AIR (Agency Name) MR. RAY PILAPIL(Agency Contact) (217) 782-2113 ray.pilapil@illinois.gov		
Other Agency Contact Info:	Illinois EPA, Bureau of Air Permit Section		
Permit Notes:			

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	268.0000 (Tons/Year)
Nitrogen Oxides (NOx)	318.0000 (Tons/Year)
Particulate Matter (PM)	121.3000 (Tons/Year)
Sulfur Oxides (SOx)	36.9000 (Tons/Year)
Volatile Organic Compounds (VOC)	81.2000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Combined Cycle Combustion Turbines

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural Gas

Throughput: 3474.00 mmBtu/hr

Process Notes: Throughput of ultra-low sulfur diesel (ULSD) is 3798 mmBtu/hr. Combined cycle combustion turbines w/ heat recovery steam generator (HRSG). Turbine inlets will have inlet evaporative cooling systems to cool inlet air during warm weather to increase power output.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMV @ 15% O2 3-UNIT OPERATING HOURS

Emission Limit 2: 5.0000 PPMV @ 15% O2 3-UNIT OPERATING HOURS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: LAER

Other Applicable Requirements:

Control Method: (A) Selective catalytic reduction (SCR) and low-NOx combustion technology (dry low-NOx combustion technology for natural gas; water injection for ULSD)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is for natural gas. Emission Limit 2 is for ULSD. Emission Limits 1 & 2 are effective beginning 36 months after commissioning. Limits 1 & 2 are not applicable during startup, shutdown, tuning and commissioning. Permit limits are as follows, applicable on a per-turbine basis, 3-hr average. For natural gas: Without duct burner: 25.2 lb/hr With duct burner: 32.0 lb/hr Other periods (incl. startup/shutdown): 228 lb/hr Extended startup: 228 lb/hr Tuning: 228 lb/hr For ULSD: Normal Operation: 83.6 lb/hr Extended startup: 277 lb/hr Tuning: 277 lb/hr See also Condition 2.1.6(a)(iv) of the issued permit for operation during transition.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.0000 PPMV @ 15 % O2 3 OPERATING-HOUR, ROLLED HOURLY, AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is not applicable during periods of startup, shutdown, tuning and commissioning. Permit limits are as follows, applicable on a per-turbine basis: For natural gas: Without duct burner: 15.4 lb/hr With duct burner: 19.0 lb/hr For ULSD: 17.0 lb/hr For periods of startup, shutdown and commissioning: Extended startups using natural gas: 1522 lb/hr Commissioning and other than extended startups using natural gas: 204 lb/hr ULSD: 231 lb/hr For periods of tuning: Natural Gas: 204 lb/hr ULSD: 231 lb/hr Averaging period for the above permit limits is 3-hour average. Also see Condition 2.1.6(a)(iv) of the issued permit for operation during transitions.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0037 LB/MMBTU 3-HOUR BLOCK AVERAGE

Emission Limit 2: 0.0167 LB/MMBTU 3-HOUR BLOCK AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is for natural gas. Emission limit 2 is for ULSD. Permit limits are as follows. Averaging time for all permit limits are 3-hour block average. For natural gas: Without duct burner: 8.6 lb/hr With duct burner: 14.4 lb/hr For ULSD: 34.3 lb/hr

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0069 LB/MMBTU 3-HOUR BLOCK AVERAGE

Emission Limit 2: 0.0320 LB/MMBTU 3-HOUR BLOCK AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practice

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is for natural gas. Emission Limit 2 is for ULSD. Emission Limits 1 and 2 and permit limits address PM10 and PM2.5 together as PM10/PM2.5. Permit limits are as follows. For natural gas: With duct burner: 18.9 lb/hr Without duct burner: 11.5 lb/hr For ULSD: 65.1 lb/hr

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) No controls feasible for use of natural gas. For ULSD, use ultra-low sulfur diesel as a backup fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Permit limits are as follows. Permit limits are applicable on a 3-hour block average For natural gas, with duct burner: 2.8 lb/hr For natural gas, without duct burner: 2.3 lb/hr. For ULSD: 4.0 lb/hr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Equipment design and proper operation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Permit limit: 4,026,300 ton/yr, 12-month rolling average. See also Condition 2.1.2(h) of the issued permit.

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural Gas

Throughput: 96.00 mmBtu/hr

Process Notes: The auxiliary boiler is used on an intermittent basis (up to 4,000 hr/yr) to produce intermediate pressure steam for heating the heat recovery steam generators (HRSG) and combustion turbines.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0110 LB/MMBTU 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER

Other Applicable Requirements:

Control Method: (A) Ultra-low NOx burners and flue gas recirculation, air preheater, automated combustion management system with O2 trim system and automated water blowdown, and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are 1.1 lb/hr and 2.2 ton/yr

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0370 LB/MMBTU 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are 3.6 lb/hr and 7.2 ton/yr

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: In the issued permit, PM, Total (TPM), addresses PM, PM10 and PM2.5. Permit limits are 0.72 lb/hr and 1.44 ton/yr

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.1000 LB/HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practice

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Permit limit is 0.20 ton/yr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 22500.0000 TON/YR 12-MONTH ROLLING AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practice

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Fuel Heater
Process Type: 19.600 (Misc. Boilers, Furnaces, Heaters)
Primary Fuel: Natural Gas
Throughput: 12.80 mmBtu/hr
Process Notes: The fuel heater indirectly heats the natural gas fuel for the combustion turbines. Natural gas for the combustion turbines must be heated to counteract the cooling that occurs when the pressure of the gas is reduced.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0110 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (A) Low-NOx burners
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are 0.45 lb/hr and 2.0 ton/yr

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0800 LB/HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are 1.02 lb/hr and 4.5 ton/yr

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: The issued permit addresses TPM as PM, PM10 and PM2.5.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0140 LB/HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 6600.0000 TON/YR 12-MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency Engines

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Ultra-low sulfur diesel

Throughput: 0

Process Notes: Two emergency engine-generators. One large emergency engine-generator, 1500 kW output, will provide emergency power to the plant. One small emergency engine-generator, 125 kW output, will provide emergency power to the switchyard. Fuel used in the emergency engines must meet the requirements of 40 CFR 80.510(b), pursuant to 40 CFR 60.4207(b).

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are LAER for NOx. For the large engine: 6.4 g/kW-hr For the small engine: 4.0 g/kW-hr Permit limits are as follows: For the large engine: 23.0 lb/hr and 1.7 ton/yr For the small engine: 1.2 lb/hr and 0.09 ton/yr

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for CO. For the large engine: 3.5 g/kW-hr For the small engine: 5.0 g/kW-hr Permit limits are as follows: For the large engine: 12.5 lb/hr and 0.9 ton/yr For the small engine 1.5 lb/hr and 0.11 ton/yr

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: In the issued permit, TPM addresses PM, PM10 and PM2.5 Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for PM. For the large engine: 0.20 g/kW-hr For the small engine: 0.30 g/kW-hr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1:

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limit: 241 tons/year (includes firewater engine)

Process/Pollutant Information

PROCESS NAME: Firewater Pump Engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Ultra-low sulfur diesel
Throughput: 0
Process Notes: A 422 horsepower engine will power the pump in the firewater system. Fuel must meet the requirements of 40 CFR 80.510(b), pursuant to 40 CFR 60.4207(b).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are LAER for NOx. For NOx: 4.0 g/kW-hr

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for CO. For CO; 3.5 g/kW-hr

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: In the issued permit, TPM addresses PM, PM10 and PM2.5 Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for PM. For PM: 0.20 g/kW-hr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limit: 241 ton/year. (includes emergency engines)

Process/Pollutant Information

PROCESS NAME: Natural Gas Piping and Components
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel:
Throughput: 0
Process Notes: GHG and methane may leak from components, such as valves and flanges

POLLUTANT NAME: Methane
CAS Number: 74-82-8
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)

Emission Limit 1:
Emission Limit 2: 32.0000 TON/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Leak Detection and Repair (LDAR) program; "leakless" components
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Compliance is demonstrated using methods in 40 CFR 60 Subpart VVa, i.e., a leak is a methane concentration of 2000 ppm or greater.

Process/Pollutant Information

PROCESS NAME: Circuit Breakers
Process Type: 99.999 (Other Miscellaneous Sources)
Primary Fuel:
Throughput: 0
Process Notes: Electrical switchgear includes circuit breakers that use gaseous sulfur hexafluoride (SF6) as a dielectric insulating material. Emissions may result from leaks.

POLLUTANT NAME: Sulfur Hexafluoride
CAS Number: 2551-62-4
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 0.5000 % LEAK RATE CALENDAR YEAR AVERAGE
Emission Limit 2: 14.6000 LB/YR 12-MONTH ROLLING AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Compliance with emission limits demonstrated using procedures in 40 CFR 98 Subpart DD.

Process/Pollutant Information

PROCESS NAME: Roadways
Process Type: 99.140 (Paved Roads)
Primary Fuel:
Throughput: 0
Process Notes: Roadways that serve trucks delivering bulk materials, e.g., ULSD or deionized water, for the combustion turbines or selective catalytic regenerator reagent.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 10.0000 % OPACITY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Paving is required for roads used by trucks transporting bulk materials.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: TPM addresses PM, PM10 and PM2.5

COMPREHENSIVE REPORT
Report Date:07/17/2020

Facility Information

RBLC ID:	OH-0379 (final)	**Date Determination**	
		Last Updated:	06/19/2019
Corporate/Company Name:	PETMIN USA INCORPORATED	**Permit Number:**	P0125024
Facility Name:	PETMIN USA INCORPORATED	**Permit Date:**	02/06/2019 (actual)
Facility Contact:	PALMIRA FARINHA (216)479-6876 PALMIRA@PETMIN.CO.ZA	**FRS Number:**	Not Found
Facility Description:	Merchant Pig Iron Production	**SIC Code:**	3312
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	331111
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	ASHTABULA		
Facility State:	OH		
Facility ZIP Code:	44004		

Permit Issued By: OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name)
MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov

Permit Notes: Initial PTI to convert iron ore pellets to merchant pig iron, including the installation of a process gas heater, electric arc furnace, startup boiler, black start generator, emergency generators, ladle preheaters, quenching & wastewater treatment, material handling and roadways.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Nitrogen Oxides (NOx)	427.8900 (Tons/Year)
Particulate Matter (PM)	26.5700 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Startup boiler (B001)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 15.17 MMBTU/H

Process Notes: Startup boiler, natural gas fired with maximum heat input of 15.17 MMBtu/hr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1130 LB/H SEE NOTES.
Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1130 LB/H SEE NOTES.
Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e

Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1784.0000 LB/H
Emission Limit 2: 7814.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.6340 LB/H
Emission Limit 2: 2.7800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0418 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Low-NOX burners, good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE

Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Plant Roadways (F001)
Process Type: 99.150 (Unpaved Roads)
Primary Fuel:
Throughput: 4195.00 MI/YR
Process Notes: Unpaved plant roadways and parking areas

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2100 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (B) Use of wet suppression and commercial dust suppressants. Develop and implement a site-specific work practice plan designed as described to minimize or eliminate fugitive dust emissions.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0200 T/YR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Use of wet suppression and commercial dust suppressants. Develop and implement a site-specific work practice plan designed as described to minimize or eliminate fugitive dust emissions.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (B) Use of wet suppression and commercial dust suppressants. Develop and implement a site-specific work practice plan designed as described to minimize or eliminate fugitive dust emissions.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: There shall be no visible particulate matter emissions from any unpaved roadways and parking areas except for a period of time not to exceed thirteen (13) minutes during any 60-minute observation period.

Process/Pollutant Information

PROCESS NAME: Process gas heater (P001)

Process Type: 12.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 218.90 MMBTU/H

Process Notes: Process gas preheater, natural gas, indirect fired with maximum heat input of 218.9 MMBtu/hr, emissions are vented to a stack.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.6300 LB/H SEE NOTES.

Emission Limit 2: 7.1400 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.6300 LB/H SEE NOTES.

Emission Limit 2: 7.1400 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 14.0100 LB/H

Emission Limit 2: 61.3600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0640 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Low NOX burners, use of natural gas and good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 25830.2000 LB/H

Emission Limit 2: 113136.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Black Start Generator (P007)

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 158.00 HP

Process Notes: Black start generator, 158 HP diesel engine.

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.2200 X10-3 LB/H

Emission Limit 2: 2.6100 X10-4 T/YR

Standard Emission: 0.0150 G/BHP-H

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Tier IV engine Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.2200 X10-3 LB/H

Emission Limit 2: 2.6100 X10-4 T/YR

Standard Emission: 0.0150 G/BHP-H

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Tier IV engine Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.1040 LB/H
Emission Limit 2: 5.2000 X10-3 T/YR
Standard Emission: 0.3000 G/BHP-H
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Tier IV engine Tier IV NSPS standards certified by engine manufacturer.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Tier IV engine Tier IV NSPS standards certified by engine manufacturer.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 181.7000 LB/H
Emission Limit 2: 9.0900 T/YR
Standard Emission: 522.1000 G/BHP-H
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Tier IV engine Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Quenching & wastewater treatment (P008)
Process Type: 81.900 (Other Ferrous Metal Industry Processes)
Primary Fuel:
Throughput: 0
Process Notes: Quenching & wastewater treatment, equipped with a flare.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0257 LB/H SEE NOTES.

Emission Limit 2: 0.1130 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0257 LB/H SEE NOTES.

Emission Limit 2: 0.1130 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.2350 LB/H
Emission Limit 2: 1.0300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 405.7200 LB/H
Emission Limit 2: 1777.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Electric Arc Furnace (EAF) (P901)

Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel:

Throughput: 0

Process Notes: Electric Arc Furnace, including smelting, tapping, pouring, and casting.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0740 LB/T OF MERCHANT PIG IRON (MPI) PRODUCED

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM10/PM2.5 emissions.

Est. % Efficiency: 99.900

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0061 LB/T OF MERCHANT PIG IRON (MPI) PRODUCED

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM10/PM2.5 emissions.

Est. % Efficiency: 99.900

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 1.4000 LB/T OF MERCHANT PIG IRON (MPI) PRODUCED

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Direct Evacuation Control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 186.4100 LB/T OF MERCHANT PIG IRON (MPI) PRODUCED

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 3.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM10/PM2.5 emissions.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Visible emissions of fugitive dust from this emissions unit shall not exceed six (6) percent opacity as a 6-minute average. Visible particulate emissions from any stack serving this emissions unit shall not exceed three (3) percent opacity as a 6-minute average.

Process/Pollutant Information

PROCESS NAME: Material Handling (P902)

Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel:

Throughput: 788000.00 T/YR

Process Notes: Raw materials handling, including screening and transfer via conveyor system.

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Outdoor material handling operations: covered conveyors and transfer points. Indoor material handling operations at the screen building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5. Indoor material handling operations at the EAF building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Outdoor material handling operations: 0.87 ton/year of fugitive PM10. Indoor material handling operations at the screen building: PM10 emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations. Indoor material handling operations at the EAF building: PM10 emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations.

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Outdoor material handling operations: covered conveyors and transfer points. Indoor material handling operations at the screen building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5. Indoor material handling operations at the EAF building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Outdoor material handling operations: 0.25 ton/year of fugitive PM2.5. Indoor material handling operations at the screen building: PM2.5 emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations. Indoor material handling operations at the EAF building: PM2.5 emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (A) Outdoor material handling operations: covered conveyors and transfer points. Indoor material handling operations at the screen building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5. Indoor material handling operations at the EAF building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Visible emissions of fugitive dust from this emissions unit shall not exceed twenty (20) percent opacity as a three-minute average. Visible particulate emissions from any stack serving this emissions unit shall not exceed twenty (20) percent opacity as a six-minute average, except as provided by the rule.

Process/Pollutant Information

PROCESS NAME: Emergency Generators (P005 and P006)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 3131.00 HP

Process Notes: Two identical Emergency generators, 3131 HP diesel engines. Throughputs and limits are for one generator, except as noted.

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 LB/H

Emission Limit 2: 0.0100 T/YR

Standard Emission: 0.0220 G/BHP-H

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Tier IV engine Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 LB/H

Emission Limit 2: 0.0100 T/YR
Standard Emission: 0.0220 G/BHP-H
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Tier IV engine Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Tier IV engine Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SIP: 20 percent opacity as a 6-minute average, except as specified by rule. NSPS: 20% opacity during the acceleration mode, 15% opacity during the lugging mode, and 50% opacity during the peaks in either the acceleration or lugging modes

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.4500 LB/H
Emission Limit 2: 0.1700 T/YR
Standard Emission: 0.5000 G/BHP-H
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Tier IV engine Tier IV NSPS standards certified by engine manufacturer.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS: 4.8 grams NOx + NMHC/bhp-hr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 3632.0000 LB/H
Emission Limit 2: 181.6000 T/YR
Standard Emission: 526.6000 G/BHP-H
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Tier IV engine Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Ladle Preheaters (P002, P003 and P004)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 15.00 MMBTU/H

Process Notes: Three identical Ladle dryers / preheaters, natural gas fired with maximum heat input of 15.00 MMBtu/hr, emissions are vented to the EAF baghouse. Throughputs and limits are for one preheater, except as noted.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1120 LB/H
Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1120 LB/H
Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 2.1200 LB/H
Emission Limit 2: 9.2900 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1410 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1764.0000 LB/H
Emission Limit 2: 7726.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	IL-0130 (final)	**Date Determination Last Updated:**	04/16/2020
Corporate/Company Name:	JACKSON GENERATION, LLC	**Permit Number:**	17040013
Facility Name:	JACKSON ENERGY CENTER	**Permit Date:**	12/31/2018 (actual)
Facility Contact:	JAMES KIEFER 847-908-2833 JKEIFER@POWERUSA.COM	**FRS Number:**	Not Found
Facility Description:	The proposed facility is designed to generate baseload power. It will consist of two combined-cycle generating units, each with a combustion turbine and associated heat recovery steam generator (HRSG). The turbines would only burn natural gas. Other units include an auxiliary boiler, fuel heater, emergency engines, natural gas piping and components, circuit breakers and roadways	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	WILL		
Facility State:	IL		
Facility ZIP Code:	60421		
Permit Issued By:	ILLINOIS EPA, BUREAU OF AIR (Agency Name) MR. RAY PILAPIL(Agency Contact) (217) 782-2113 ray.pilapil@illinois.gov		
Permit Notes:	Additional pollutants: Sulfuric Acid Mist: 48 tons/year; GHG as CO2e: 4,752,085 tons/year		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	226.0000 (Tons/Year)
Nitrogen Oxides (NOx)	294.0000 (Tons/Year)
Particulate Matter (PM)	107.0000 (Tons/Year)
Sulfur Oxides (SOx)	33.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	86.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Combined-Cycle Combustion Turbine

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural Gas

Throughput: 3864.00 mmBtu/hr

Process Notes: Combined-cycle combustion turbines with heat recovery steam generator (HRSG). Turbines will have inlet evaporative cooling systems to cool inlet air during warm weather to increase power output.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMV 3-UNIT OPERATING HOURS @ 15% O2

Emission Limit 2: 2.0000 PPMV 1-UNIT OPERATING HOUR @ 15% O2

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER

Other Applicable Requirements:

Control Method: (A) Selective Catalytic Reduction (SCR) and low-NOx technology (dry low-NOx combustion technology)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is applicable for first 36 months of operation. Emission Limit 2 is applicable beginning 36 months after commissioning of turbines. Pounds/hour limits without duct burner are: 30.5 (normal operation), 180.3 (startup/shutdown/commissioning) and 91.5 (tuning). Pounds/hour limits with duct burner are: 33.9 (normal operation, 33.9 (startup/shutdown/commissioning) and 91.5 (tuning). All pounds/hour limits for normal operation apply on a 3-hour average. Pounds/hour limits for startup/shutdown/commissioning and tuning apply on a 1-hour average. See also Condition 2.1.6(a)(iv) of the issued permit.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.0000 PPMV 3 OPERATING HOUR AVERAGE @ 15% O2

Emission Limit 2: 211.5000 PPMV 3 OPERATING HOUR AVERAGE @ 15% O2

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limits 1 is applicable when operating with duct burner. Emission Limit 2 is applicable without the duct burner, after 36 months from initial operation. Pounds/hour limit without duct burner is 30.5, 3-hour average. Pounds/hour limit with duct burner is 33,9, 3-hour average. Emission Limits 1 and 2 and pounds/hour limits do not apply during startup/shutdown/commissioning and tuning. Pounds/hour limit for startup/shutdown/commissioning is 483.5. Pounds/hour limit for tuning is 239. Pounds/hour limit for period of very low load is 20.6

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0026 LB/MMBTU 3-HR BLOCK AVERAGE

Emission Limit 2: 0.0042 LB/MMBTU 3-HR BLOCK AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is applicable to PM. Emission Limit 2 is applicable to PM10/PM2.5. For PM, pounds/hour emission limits for startup/shutdown/commissioning are 11.5 (without duct burner) and 12.3 (with duct burner). For PM10/PM2.5, pounds/hour emission limits for startup/shutdown/commissioning are 12.4 (without duct burner) and 19.8 (with duct burner)

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 5.0000 POUNDS/HOUR 3-HR BLOCK AVG

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 4733910.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Equipment design and proper operation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: CO2 emissions of each turbine shall not exceed 1,000 lb/MWh of gross energy output, or, alternatively, 1,030 lb/MWh of net energy output on a 12-month rolling average basis.

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural Gas
Throughput: 96.00 mmBtu/hr
Process Notes: The auxiliary boiler is used on an intermittent basis (up to 2,000 hours/year) to produce intermediate pressure steam for heating the heat recovery steam generators (HRSGs) and steam turbines

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0100 LB/MMBTU 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements:
Control Method: (B) Ultra low-NOx burners and flue gas recirculation air preheater, automated combustion management systems, automated water blowdown, good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0370 LB/MMBTU 3-HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU 3-HOUR AVERAGE
Emission Limit 2: 0.0019 LB/MMBTUD 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission Limit 1 applies to PM10/PM2.5. Emission Limit 2 applies to PM.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.1000 POUNDS/HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 11250.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Fuel Heater

Process Type: 19.600 (Misc. Boilers, Furnaces, Heaters)

Primary Fuel: Natural Gas

Throughput: 13.00 mmBtu/hour

Process Notes: Indirectly heats the natural gas fuel for the combustion turbines. This natural gas must be heated to counteract the cooling the cooling that occurs when the pressure of the gas is reduced.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0110 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (A) Low-NOx combustion technology
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0800 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission Limit 1 applies for PM, PM10 and PM2.5

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Cond. Test Mthd 013B
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0140 POUNDS/HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 6700.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Firewater Pump Engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Ultra-Low Sulfur Diesel
Throughput: 420.00 horsepower
Process Notes: One engine will power the pump in the firewater system. The fuel must meet the requirements of 40 CFR 80.510(b) pursuant to 40 CFR 60.4207(b).

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 4.0000 G/KW-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: LAER

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS Subpart IIII limit of 4.0 g/kW-hr is LAER

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 3.5000 G/KW-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS Subpart IIII limit of 3.5 g/kW-hr is BACT

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 G/KW-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS Subpart IIII emission limit of 0.20 g/kW-hr is BACT. This limit applies to PM/PM10/PM2.5

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 241.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 applies for firewater pump engine and emergency engine

Process/Pollutant Information

PROCESS NAME: Emergency Engine

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Ultra-Low Sulfur Diesel

Throughput: 1500.00 kW

Process Notes: One large emergency engine-generator at the plant; one small emergency engine-generator at the switchyard. Fuel must meet the requirements at 40 CFR 80.510(b) pursuant to 40 CFR 60.4207(b)

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 6.4000 G/KW-HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII limit of 6.4 g/kW-hr is LAER

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-HR
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII limit of 3.5 g/kW-hr is BACT

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII limit of 0.20 g/kW-hr is BACT

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 225.0000 TONS/YEAR
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Applies as combination of emergency engine and fire pump engine

Process/Pollutant Information

PROCESS NAME: Natural Gas Piping and Components
Process Type: 50.001 (Oil and Gas Field Services)
Primary Fuel:
Throughput: 0
Process Notes: Methane may leak from components, such as flanges and valves

POLLUTANT NAME: Methane
CAS Number: 74-82-8
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)
Emission Limit 1: 4.3000 TONS/YEAR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Leak Detection and Repair Program (LDAR), use of "leakless" components.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Use 40 CFR 60 Subpart VVa methods. A leak is a methane concentration of 2000 ppm or more

Process/Pollutant Information

PROCESS NAME: Circuit Breakers

Process Type: 99.999 (Other Miscellaneous Sources)

Primary Fuel:

Throughput: 0

Process Notes: Electric switchgear includes circuit breakers that uses gaseous sulfur hexafluoride (SF6) as a dielectric or insulating material. Emissions may result from SF6 leaks.

POLLUTANT NAME: Sulfur Hexafluoride

CAS Number: 2551-62-4

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 0.5000 PERCENT LEAK RATE CALENDAR YEAR AVERAGE

Emission Limit 2: 10.0000 POUNDS/YEAR 12-MONTH ROLLING AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Compliance with limits demonstrated using methods in 40 CFR 98 Subpart DD.

Process/Pollutant Information

PROCESS NAME: Roadways

Process Type: 99.140 (Paved Roads)

Primary Fuel:

Throughput: 0

Process Notes: Roadways that serve trucks delivering bulk materials, e.g., deionized water for the combustion turbines or selective catalytic reduction (SCR) reagent.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 10.0000 PERCENT OPACITY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Paving required for roads used by trucks that transport bulk materials.

Facility Information

RBLC ID:	OH-0378 (final)	**Date Determination**	
		Last Updated:	06/19/2019
Corporate/Company Name:	PTTGCA PETROCHEMICAL COMPLEX	**Permit Number:**	P0124972
Facility Name:	PTTGCA PETROCHEMICAL COMPLEX	**Permit Date:**	12/21/2018 (actual)
Facility Contact:	PAUL WOJCIECHOWSKI (713)871-5730 PAUL.W@PTTGCAMERICA.COM	**FRS Number:**	Not Found
Facility Description:	Petrochemical Complex	**SIC Code:**	2869
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	325110
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	BELMONT		
Facility State:	OH		

Facility ZIP Code: 43947

Permit Issued By: OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name)
MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov

Permit Notes: Initial installation permit for a world-scale petrochemical complex composed of ethylene and ethylene-based derivative plants to manufacture high-density polyethylene (HDPE) and linear low-density polyethylene/HDPE (LLDPE/HDPE) with the following design capacities: Ethylene Plant: 1,500 KT/year; HDPE Units: two (2) trains of 350 KT/year for each train; and LLDPE/HDPE Units: two (2) trains of 450 KT/year for each train. The petrochemical complex will also involve onsite railcar and truck loading, supporting utilities, infrastructure, storage tanks, logistics facilities, and facilities to produce and/or provide required natural gas, water, air, nitrogen, steam, and electricity to support the operation of process units.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	544.0000 (Tons/Year)
Nitrogen Oxides (NOx)	164.0000 (Tons/Year)
Particulate Matter (PM)	120.0000 (Tons/Year)
Sulfur Oxides (SOx)	23.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	396.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Ethane Cracking Furnaces, 6 identical (B001 - B006)

Process Type: 11.390 (Other Gaseous Fuel & Gaseous Fuel Mixtures)

Primary Fuel: Tail gas and natural gas

Throughput: 552.00 MMBTU/H

Process Notes: Six identical Ethane Cracking Furnaces 1 through 6; 552 MMBtu/hour cracking furnace burning tail gas, natural gas and ethane (backup only) equipped with low-NOx burners (LNBs) and controlled by selective catalytic reduction (SCR). Limits are for single furnace except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0135 LB/MMBTU HOURLY MAXIMUM. SEE NOTES.

Emission Limit 2: 7.4500 LB/H SEE NOTES.

Standard Emission: 0.0100 LB/MMBTU AS ROLLING 12-MONTH AVG. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) low-NOx burners and SCR with a control efficiency of at least 90%

Est. % Efficiency: 90.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 0.0135 lb/MMBtu as an hourly maximum during normal operation and 7.45 lbs/hr, excluding periods of startup, shutdown and hot steam standby. 0.010 lb/MMBtu as a rolling, 12-month average, excluding periods of startup, shutdown and hot steam standby. 0.015 lb/MMBtu as a 3-hour average and 2.18 lbs/hr during decoking. 0.050 lb/MMBtu as a three-hour average and 7.20 lbs/hr during periods of startup, shutdown and hot steam standby. 144.00 tons of NOx per rolling, 12-month period for B001-B006, combined.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Other

Other Test Method: CEM

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 19.3200 LB/H SEE NOTES.

Emission Limit 2: 5.0800 LB/H DURING DECOKING. SEE NOTES.

Standard Emission: 0.0350 LB/MMBTU AS ROLLING 12-MONTH AVG. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Proper burner design and good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.035 lb/MMBtu as a 12-month rolling average and 19.32 lbs/hr. 5.08 lbs/hr during decoking. 500.00 tons of CO per rolling, 12-month period for B001-B006, combined.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.4200 LB/H

Emission Limit 2: 122.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 0.0080 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Proper burner design and good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 122.00 tons of VOC per rolling, 12-month period for B001-B006, combined.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0190 LB/MMBTU DURING DECOKING. SEE NOTES

Emission Limit 2: 2.7600 LB/H SEE NOTES.

Standard Emission: 0.0050 LB/MMBTU EXCLUDING DECOKING. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) All modes except decoking: Proper burner design and good combustion practices. Decoking: Good combustion and operating practices to limit the decoking event of each cracking furnace to maximum of 10 times a year (totally 360 hours per year each furnace) and recycling of decoking vent stream to furnace firebox.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 72.59 tons of PE per rolling, 12-month period for B001-B006, combined.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0100 LB/MMBTU DURING DECOKING. SEE NOTES.

Emission Limit 2: 2.7600 LB/H EXCLUDING DECOKING. SEE NOTES.

Standard Emission: 0.0050 LB/MMBTU EXCLUDING DECOKING. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) All modes except decoking: Proper burner design and good combustion practices. Decoking: Good combustion and operating practices to limit the decoking event of each cracking furnace to maximum of 10 times a year (totally 360 hours per year each furnace) and recycling of decoking vent stream to furnace firebox.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.005 lb/MMBtu and 2.76 lbs/hr, excluding periods of decoking. 0.010 lb/MMBtu and 1.45 lbs/hr during decoking. 71.89 tons per rolling, 12-month period for B001-B006, combined

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0100 LB/MMBTU DURING DECOKING. SEE NOTES.

Emission Limit 2: 2.7600 LB/H EXCLUDING DECOKING. SEE NOTES.

Standard Emission: 0.0050 LB/MMBTU EXCLUDING DECOKING. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) All modes except decoking: Proper burner design and good combustion practices. Decoking: Good combustion and operating practices to limit the decoking event of each cracking furnace to maximum of 10 times a year (totally 360 hours per year each furnace) and recycling of decoking vent stream to furnace firebox.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.005 lb/MMBtu and 2.76 lbs/hr, excluding periods of decoking. 0.010 lb/MMBtu and 1.45 lbs/hr during decoking. 71.89 tons per rolling, 12-month period for B001-B006, combined.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1673240.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of low carbon gaseous fuels, good combustion and operating practices, and pollution prevention means by improving energy efficiency

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 1,673,240 tons of carbon dioxide equivalents (CO2e) per rolling, 12-month period for B001-B006, combined.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) All modes except decoking: Proper burner design and good combustion practices. Decoking: Good combustion and operating practices to limit the decoking event of each cracking furnace to maximum of 10 times a year (totally 360 hours per year each furnace) and recycling of decoking vent stream to furnace firebox.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Natural Gas and Ethane-Fired Steam Boilers (B007 - B009)

Process Type: 11.390 (Other Gaseous Fuel & Gaseous Fuel Mixtures)

Primary Fuel: Natural gas and ethane

Throughput: 400.00 MMBTU/H

Process Notes: Three identical Steam Boilers 1 through 3; natural gas and ethane-fired steam boiler equipped with ultra-low-NOx burners and flue gas recirculation (FGR) with a maximum fuel input rating of 400 million BTU/hour and an average fuel input rating of 160 MMBtu/hour. Limits are for single boiler except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Other

Other Test Method: CEM

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0200 LB/MMBTU DURING STARTUP AND SHUTDOWN. SEE NOTES.

Emission Limit 2: 4.0000 LB/H AS ROLLING 30-DAY AVG. SEE NOTES.

Standard Emission: 0.0100 LB/MMBTU AS ROLLING 30-DAY AVG. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) ultra-low NOx burners (ULNB) and flue gas recirculation (FGR)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.010 lb/MMBtu of actual heat input as a rolling, 30-day average and 4.00 lbs/hr, excluding periods of startup and shutdown. 0.020 lb/MMBtu of actual heat input and 8.00 lbs/hr during periods of startup and shutdown. 8.76 tons of NOx per rolling, 12-month period from B007-B009, combined.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Other
Other Test Method: CEM
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 14.0000 LB/H
Emission Limit 2: 30.7000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 0.0350 LB/MMBTU AS ROLLING 12-MONTH AVG. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Proper burner design, good combustion practices and use of only natural gas with ethane backup
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.035 lb/MMBtu of actual heat input as a rolling, 12-month average and 14.00 lbs/hr. 30.70 tons of CO per rolling, 12-month period from B007-B009, combined.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25A
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 2.1600 LB/H
Emission Limit 2: 4.7300 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 0.0054 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Proper burner design, good combustion practices and use of only natural gas with ethane backup
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 4.73 tons of VOC per rolling, 12-month period for B007-B009, combined.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: EPA/OAR Mthd 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.0000 LB/H
Emission Limit 2: 4.3800 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 0.0050 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Proper burner design, good combustion practices and use of only natural gas with ethane backup
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 4.38 tons per rolling, 12-month period for B007-B009, combined.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.0000 LB/H
Emission Limit 2: 4.3800 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 0.0050 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Proper burner design, good combustion practices and use of only natural gas with ethane backup
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 4.38 tons per rolling, 12-month period for B007-B009, combined.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Other
Other Test Method: Methods 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.0000 LB/H
Emission Limit 2: 4.3800 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 0.0050 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Proper burner design, good combustion practices and use of only natural gas with ethane backup
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 4.38 tons per rolling, 12-month period for B007-B009, combined.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 102500.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low carbon intensity gaseous fuels, good combusting and operating practices, and efficiency improvement measures to maximize overall unit energy efficiency.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 102,500 tons of carbon dioxide equivalents (CO2e) per rolling, 12-month period for B007-B009, combined.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Proper burner design, good combustion practices and use of only natural gas with ethane backup

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Ethylene Manufacturing Unit (P801)

Process Type: 63.999 (Other Polymer and Resin Manufacturing Sources)

Primary Fuel:

Throughput: 0

Process Notes: 1,500 KTA ethylene manufacturing process; includes feed preheating, cracking, quenching, compression, caustic scrubbing, precooling/drying, separation, and hydrogenation. Process vents, storage tanks, and startup/shutdown/maintenance/upsets controlled by flare and thermal oxidizer.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) high pressure (HP) flare achieving a destruction efficiency of 98% for VOC emissions and thermal oxidizer (TO) achieving a destruction efficiency of 99.5% for VOC emissions. See notes.

Est. % Efficiency: 99.500

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: (a) use of closed vent systems controlled with high pressure (HP) flare (emission unit P003) achieving a destruction efficiency of 98% for VOC emissions from the following: (i) startup/shutdown/maintenance/upsets; (ii) spent caustic degassing drum; (iii) spent caustic drain drum; and (iv) pressure relief valve (PRV) leaks/releases. (b) use of thermal oxidizer (TO, emission units P001 and P002) achieving a destruction efficiency of 99.5% for VOC emissions from the following: (i) quench water drain drum; (ii) wet air oxidation unit; (iii) dimethyl disulphide (DMDS) tank; and (iv) wash oil tank; (c) tail gas from the hydrogenation section shall be used as fuel gas for firing in process cracking furnace(s); (d) implementation of a facility specific program reducing fugitive component equipment leaks for applicable component equipment in the ethylene manufacturing unit; (e) implementation of a program to minimize flaring.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Implementation of a facility specific program reducing fugitive component equipment leaks for applicable component equipment in the ethylene manufacturing unit. See emission unit P807 (Fugitive Emissions).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: High-Density Polyethylene Manufacturing Unit #1 (P802)

Process Type: 63.999 (Other Polymer and Resin Manufacturing Sources)

Primary Fuel:

Throughput: 0

Process Notes: 350 KTA high density polyethylene (HDPE) manufacturing process; includes catalyst activation & feed systems, reactor system, separation/degassing, solvent recovery and pelletizing sections, pellet blending, handling, and storage.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0980 LB/MMBTU SEE NOTES.
Emission Limit 2: 0.5100 LB/H SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits represent combustion emissions associated with the jackets of two catalyst activator furnaces. 4.47 tons per rolling 12-month period for the two activator furnaces combined.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0820 LB/MMBTU SEE NOTES.
Emission Limit 2: 0.4300 LB/H SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limitations represent combustion emissions associated with the jackets of two catalyst activator furnaces. 3.74 tons per rolling 12-month period for the two activator furnaces combined.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0054 LB/MMBTU SEE NOTES.

Emission Limit 2: 0.0300 LB/H SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Use of closed vent system controlled with high pressure (HP) flare achieving a destruction efficiency of 98% for VOC emissions, use of thermal oxidizer (TO) achieving a destruction efficiency of 99.5% for VOC emissions, implementation of facility specific program reducing fugitive component equipment leaks including applicable component equipment in the polyethylene manufacturing line and implementation of a program to minimize flaring.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: For combustion emissions associated with the jackets of two catalyst activator furnaces: (i) 0.0054 lb/MMBtu; (ii) 0.03 lb/hr (for each individual furnace); and (iii) 0.25 ton per rolling 12-month period for two activator furnaces combined. For HDPE manufacturing process for VOC emissions other than the catalyst activation furnace combustion emissions: i. use of closed vent system controlled with high pressure (HP) flare achieving a destruction efficiency of 98% for VOC emissions from the following: (a) intermediate flash slurry sampler; (b) LSR lights condenser; (c) heavies column; and (d) pressure relief valve (PRV) leaks/releases; ii. use of thermal

oxidizer (TO) achieving a destruction efficiency of 99.5% for VOC emissions from the following: (a) LPSR condensate separator; and (b) powder conveying package vent; iii. residual VOC in the polyethylene resin exiting the extruder shall be less than 80 ppmv; iv. The combined VOC emissions for all HDPE manufacturing process vents without VOC control (e.g. not vented to flare or TO) shall not exceed 28.00 tons per rolling 12-month period; v. implementation of facility specific program reducing fugitive component equipment leaks including applicable component equipment in the polyethylene manufacturing line (see C.12.b)(2)b. and c.); and vi. implementation of a program to minimize flaring.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for two catalyst activator jacket vents, two catalyst filter vents, extruder vent, additive vent, six additive feeder vents. Fabric filtration at 0.002 gr/dscf for pellet conveying hopper vent, pellet hopper vent, 24 pellet & off-spec blender/silo vents, and pellet dryer fan vent (only vent requiring stack test). Catalyst activation system vents associated with co-catalyst container changes shall be controlled by passing vent streams through a seal pot containing mineral oil resulting only in emissions of nitrogen gas used in co-catalyst transfer.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Combustion emissions associated with the jackets of two catalyst activator furnaces: 0.0075 lb/MMBtu, 0.04 lb/h (each individual furnace), 0.34 ton per rolling 12-month period for two activator furnaces combined. Catalyst activator jacket vents (R-201A and B): 0.005 gr/dscf, 0.10 lb/h and 0.44 ton per rolling 12-month period. Catalyst filter vents (S-203A and B): 0.005 gr/dscf, 0.0015 lb/hr and 0.006 ton per rolling 12-month period. Extruder vent filter (3S-603): 0.005 gr/dscf, 0.015 lb/hr and 0.065 ton per rolling 12-month period. Additive vent filter (3S-604): 0.005 gr/dscf, 0.04 lb/hr and 0.175 ton per rolling 12-month period. Additive feeder vents (3Q-602A through F): 0.005 gr/dscf, 0.001 lb/hr and 0.0044 ton per rolling 12-month period for each individual vent (6 individual vents). Pellet conveying hopper vent (3V-607): 0.002 gr/dscf, 0.004 lb/hr and 0.0175 ton per rolling 12-month period. Pellet hopper vent (3V-702): 0.002 gr/dscf, 0.06 lb/hr and 0.263 tons per rolling 12-month period. Pellet & off-spec blender/silo vents (3V-701A through E) & (PE1-19): 0.002 gr/dscf, 0.036 lb/hr & 0.162 ton per rolling 12-month period for six vents combined. Pellet dryer fan vent (3C-603): 0.002 gr/dscf, 0.134 lb/hr

& 0.587 ton per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for two catalyst activator jacket vents, two catalyst filter vents, extruder vent, additive vent, six additive feeder vents. Fabric filtration at 0.002 gr/dscf for pellet conveying hopper vent, pellet hopper vent, 24 pellet & off-spec blender/silo vents, and pellet dryer fan vent (only vent requiring stack test). Catalyst activation system vents associated with co-catalyst container changes shall be controlled by passing vent streams through a seal pot containing mineral oil resulting only in emissions of nitrogen gas used in co-catalyst transfer.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Combustion emissions associated with the jackets of two catalyst activator furnaces: 0.0075 lb/MMBtu, 0.04 lb/h (each individual furnace), 0.34 ton per rolling 12-month period for two activator furnaces combined. Catalyst activator jacket vents (R-201A and B): 0.005 gr/dscf, 0.10 lb/h and 0.44 ton per rolling 12-month period. Catalyst filter vents (S-203A and B): 0.005 gr/dscf, 0.0015 lb/hr and 0.006 ton per rolling 12-month period. Extruder vent filter (3S-603): 0.005 gr/dscf, 0.015 lb/hr and 0.065 ton per rolling 12-month period. Additive vent filter (3S-604): 0.005 gr/dscf, 0.04 lb/hr and 0.175 ton per rolling 12-month period. Additive feeder vents (3Q-602A through F): 0.005 gr/dscf, 0.001 lb/hr and 0.0044 ton per rolling 12-month period for each individual vent (6 individual vents). Pellet conveying hopper vent (3V-607): 0.002 gr/dscf, 0.004 lb/hr and 0.0175 ton per rolling 12-month period. Pellet hopper vent (3V-702): 0.002 gr/dscf, 0.06 lb/hr and 0.263 tons per rolling 12-month period. Pellet & off-spec blender/silo vents (3V-701A through E) & (PE1-19): 0.002 gr/dscf, 0.036 lb/hr & 0.162 ton per rolling 12-month period for six vents combined. Pellet dryer fan vent (3C-603): 0.002 gr/dscf, 0.134 lb/hr & 0.587 ton per rolling 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (A) Fabric filtration at 0.005 gr/dscf for two catalyst activator jacket vents, two catalyst filter vents, extruder vent, additive vent, six additive feeder vents. Fabric filtration at 0.002 gr/dscf for pellet conveying hopper vent, pellet hopper vent, 24 pellet & off-spec blender/silo vents, and pellet dryer fan vent (only vent requiring stack test). Catalyst activation system vents associated with co-catalyst container changes shall be controlled by passing vent streams through a seal pot containing mineral oil resulting only in emissions of nitrogen gas used in co-catalyst transfer.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Visible particulate emissions from each process vent stack controlled with fabric filtration shall not exceed five percent opacity, as a six-minute average. No visible emissions of fugitive particulate from the discharge of co-catalyst material to the atmospheric sand pit. SIP: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 117.0000 LB/MMBTU

Emission Limit 2: 5335.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Low carbon intensity gaseous fuels, good combusting and operating practices, and efficiency improvement measures to maximize overall unit energy efficiency.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 5335 t/yr per rolling 12-month period for two activator furnaces combined.

Process/Pollutant Information

PROCESS NAME: High-Density Polyethylene Manufacturing Unit #2 (P803)
Process Type: 63.999 (Other Polymer and Resin Manufacturing Sources)
Primary Fuel:
Throughput: 0
Process Notes: 350 KTA high density polyethylene (HDPE) manufacturing process; includes catalyst activation & feed systems, reactor system, separation/degassing, solvent recovery and pelletizing sections, pellet blending, handling, and storage.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 117.0000 LB/MMBTU
Emission Limit 2: 5335.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low carbon intensity gaseous fuels, good combusting and operating practices, and efficiency improvement measures to maximize overall unit energy efficiency.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 5335 t/yr per rolling 12-month period for two activator furnaces combined.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0820 LB/MMBTU SEE NOTES.
Emission Limit 2: 0.4300 LB/H SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission limitations represent combustion emissions associated with the jackets of two catalyst activator furnaces. 3.74 tons per rolling 12-month period for the two activator furnaces combined.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0980 LB/MMBTU SEE NOTES.
Emission Limit 2: 0.5100 LB/H SEE NOTES.
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits represent combustion emissions associated with the jackets of two catalyst activator furnaces. 4.47 tons per rolling 12-month period for the two activator furnaces combined.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for two catalyst activator jacket vents, two catalyst filter vents, extruder vent, additive vent, six additive feeder vents. Fabric filtration at 0.002 gr/dscf for pellet conveying hopper vent, pellet hopper vent, 24 pellet & off-spec blender/silo vents, and pellet dryer fan vent (only vent requiring stack test). Catalyst activation system vents associated with co-catalyst container changes shall be controlled by passing vent streams through a seal pot containing mineral oil resulting only in emissions of nitrogen gas used in co-catalyst transfer.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Combustion emissions associated with the jackets of two catalyst activator furnaces: 0.0075 lb/MMBtu, 0.04 lb/h (each individual furnace), 0.34 ton per rolling 12-month period for two activator furnaces combined. Catalyst activator jacket vents (R-201A and B): 0.005 gr/dscf, 0.10 lb/h and 0.44 ton per rolling 12-month period. Catalyst filter vents (S-203A and B): 0.005 gr/dscf, 0.0015 lb/hr and 0.006 ton per rolling 12-month period. Extruder vent filter (3S-603): 0.005 gr/dscf, 0.015 lb/hr and 0.065 ton per rolling 12-month period. Additive vent filter (3S-604): 0.005 gr/dscf, 0.04 lb/hr and 0.175 ton per rolling 12-month period. Additive feeder vents (3Q-602A through F): 0.005 gr/dscf, 0.001 lb/hr and 0.0044 ton per rolling 12-month period for each individual vent (6 individual vents). Pellet conveying hopper vent (3V-607): 0.002 gr/dscf, 0.004 lb/hr and 0.0175 ton per rolling 12-month period. Pellet hopper vent (3V-702): 0.002 gr/dscf, 0.06 lb/hr and 0.263 tons per rolling 12-month period. Pellet & off-spec blender/silo vents (3V-701A through E) & (PE1-19): 0.002 gr/dscf, 0.036 lb/hr & 0.162 ton per rolling 12-month period for six vents combined. Pellet dryer fan vent (3C-603): 0.002 gr/dscf, 0.134 lb/hr & 0.587 ton per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for two catalyst activator jacket vents, two catalyst filter vents, extruder vent, additive vent, six additive feeder vents. Fabric filtration at 0.002 gr/dscf for pellet conveying hopper vent, pellet hopper vent, 24 pellet & off-spec blender/silo vents, and pellet dryer fan vent (only vent requiring stack test). Catalyst activation system vents associated with co-catalyst container changes shall be controlled by passing vent streams through a seal pot containing mineral oil resulting only in emissions of nitrogen gas used in co-catalyst transfer.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Combustion emissions associated with the jackets of two catalyst activator furnaces: 0.0075 lb/MMBtu, 0.04 lb/h (each individual furnace), 0.34 ton per rolling 12-month period for two activator furnaces combined. Catalyst activator jacket vents (R-201A and B): 0.005 gr/dscf, 0.10 lb/h and 0.44 ton per rolling 12-month period. Catalyst filter vents (S-203A and B): 0.005 gr/dscf, 0.0015 lb/hr and 0.006 ton per rolling 12-month period. Extruder vent filter (3S-603): 0.005 gr/dscf, 0.015 lb/hr and 0.065 ton per rolling 12-month period. Additive vent filter (3S-604): 0.005 gr/dscf, 0.04 lb/hr and 0.175 ton per rolling 12-month period. Additive feeder vents (3Q-602A through F): 0.005 gr/dscf, 0.001 lb/hr and 0.0044 ton per rolling 12-month period for each individual vent (6 individual vents). Pellet conveying hopper vent (3V-607): 0.002 gr/dscf, 0.004 lb/hr and 0.0175 ton per rolling 12-month period. Pellet hopper vent (3V-702): 0.002 gr/dscf, 0.06 lb/hr and 0.263 tons per rolling 12-month period. Pellet & off-spec blender/silo vents (3V-701A through E) & (PE1-19): 0.002 gr/dscf, 0.036 lb/hr & 0.162 ton per rolling 12-month period for six vents combined. Pellet dryer fan vent (3C-603): 0.002 gr/dscf, 0.134 lb/hr & 0.587 ton per rolling 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (A) Fabric filtration at 0.005 gr/dscf for two catalyst activator jacket vents, two catalyst filter vents, extruder vent, additive vent, six additive feeder vents. Fabric filtration at 0.002 gr/dscf for pellet conveying hopper vent, pellet hopper vent, 24 pellet & off-spec blender/silo vents, and pellet dryer fan vent (only vent requiring stack test). Catalyst activation system vents associated with co-catalyst container changes shall be controlled by passing vent streams through a seal pot containing mineral oil resulting only in emissions of nitrogen gas used in co-catalyst transfer.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Visible particulate emissions from each process vent stack controlled with fabric filtration shall not exceed five percent opacity, as a six-minute average. No visible emissions of fugitive particulate from the discharge of co-catalyst material to the atmospheric sand pit. SIP: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0054 LB/MMBTU SEE NOTES.

Emission Limit 2: 0.0300 LB/H SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Use of closed vent system controlled with high pressure (HP) flare achieving a destruction efficiency of 98% for VOC emissions, use of thermal oxidizer (TO) achieving a destruction efficiency of 99.5% for VOC emissions, implementation of facility specific program reducing fugitive component equipment leaks including applicable component equipment in the polyethylene manufacturing line and implementation of a program to minimize flaring.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: For combustion emissions associated with the jackets of two catalyst activator furnaces: (i) 0.0054 lb/MMBtu; (ii) 0.03 lb/hr (for each individual furnace); and (iii) 0.25 ton per rolling 12-month period for two activator furnaces combined. For HDPE manufacturing process for VOC emissions other than the catalyst activation furnace combustion emissions: i. use of closed vent system controlled with high pressure (HP) flare achieving a destruction efficiency of 98% for VOC emissions from the following: (a) intermediate flash slurry sampler; (b) LSR lights condenser; (c) heavies column; and (d) pressure relief valve (PRV) leaks/releases; ii. use of thermal oxidizer (TO) achieving a destruction efficiency of 99.5% for VOC emissions from the following: (a) LPSR condensate separator; and (b) powder conveying package vent; iii. residual VOC in the polyethylene resin exiting the extruder shall be less than 80 ppmv; iv. The combined VOC emissions for all HDPE manufacturing process vents without VOC control (e.g. not vented to flare or TO) shall not exceed 28.00 tons per rolling 12-month period; v. implementation of facility specific program reducing fugitive component equipment leaks including applicable component equipment in the polyethylene manufacturing line (see C.12.b)(2)b. and c.); and vi. implementation of a program to minimize flaring.

Process/Pollutant Information

PROCESS NAME: Linear Low/High-Density Polyethylene Manufacturing Unit #3 (P804)

Process Type: 63.999 (Other Polymer and Resin Manufacturing Sources)

Primary Fuel:

Throughput: 0

Process Notes: 450 KTA linear low-density polyethylene (LLDPE)/high density polyethylene (HDPE) manufacturing process; includes purification (ethylene & raw material), catalyst system, reactor system, resin degassing and vent recovery, seed bed & granular storage system, and additive handling and pelletizing.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 80.0000 PPM BY VOLUME. SEE NOTES.

Emission Limit 2: 36.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Thermal oxidizer with a destruction efficiency of 99.5% from analyzer vents, degassing column vents, ethylene purification, low product purge bin vent filter, and high pressure accumulator vent. Closed vent system controlled with flare (high pressure (HP) and/or low pressure (LP)) with a destruction efficiency of 98% from butene dryer regen vent, hexene dryer regen vent, ICA dryer regen vent, ethylene deoxo regen vent, ethylene dryers regen vent, ethylene systems shutdown, non-emergency reactor vents, and product purge bin vent filter. Pressure safety valve (PSV) leaks/releases from raw materials supply pressure PSVs, purification PSVs, reaction PSVs, resin degassing PSVs, and vent recovery PSVs. Implementation of facility specific program reducing fugitive component equipment leaks including applicable component equipment in the polyethylene manufacturing line. Implementation of a program to minimize flaring.

Est. % Efficiency: 99.500

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Residual VOC in the polyethylene resin exiting the granular resin surge hopper shall be less than 80 ppmv. The combined VOC emissions for all LLDPE/HDPE manufacturing process vents without VOC control (e.g. not vented to flare or TO) shall not exceed 36.00 tons per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for the catalyst vent filter (Y-4901) and receiver bin filter vent (Y-5657) & seed bed filter vents (Y-5651 through 5655). Fabric filtration at 0.002 gr/dscf for granular resin surge hopper vent filter (D-6210), bag dump stations/dump hoppers vent filter (Y-6231 through 6235), talc surge bin filter (Y-6251), mixer vent filter (Y-6260), pellet conveying hopper (PE3-07), pellet hopper (PE3-08), and pellet blending/off-spec blending silos (PE3-09 through PE3-15). Pellet dryer vent (Y-7010) shall not exceed a maximum outlet concentration of 0.002 gr/dscf.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Catalyst vent filter (Y-4901): 0.005 gr/dscf, 0.035 lb/hr and 0.153 ton per rolling 12-month period. Receiver bin filter vent (Y-5657) & seed bed filter vents (Y-5651 through 5655): 0.005 gr/dscf, 0.08 lb/hr and 0.35 ton per rolling 12-month period. Granular resin surge hopper vent filter (D-6210): 0.002 gr/dscf, 0.042 lb/hr and 0.184 ton per rolling 12-month period. Bag dump stations/dump hoppers vent filter (Y-6231 through 6235): 0.002 gr/dscf, 0.0515 lb/hr and 0.226 ton per rolling 12-month period. Talc surge bin filter (Y-6251): 0.002 gr/dscf, 0.012 lb/hr and 0.053 ton per rolling 12-month period. Mixer vent filter (Y-6260): 0.002 gr/dscf, 0.009 lb/hr and 0.039 ton per rolling 12-month period. Pellet conveying hopper (PE3-07): 0.002 gr/dscf, 0.004 lb/hr and 0.018 ton per rolling 12-month period. Pellet hopper (PE3-08): 0.002 gr/dscf, 0.06 lb/hr and 0.26 ton per rolling 12-month period. Pellet blending/off-spec blending silos (PE3-09 through PE3-15): 0.002 gr/dscf, 0.048 lb/hr and 0.208 ton per rolling 12-month period for all vents combined. Pellet dryer vent (Y-7010) shall not exceed a maximum outlet concentration of 0.002 gr/dscf, 0.05 lb/hr and 0.11 ton per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for the catalyst vent filter (Y-4901) and receiver bin filter vent (Y-5657) & seed bed filter vents (Y-5651 through 5655). Fabric filtration at 0.002 gr/dscf for granular resin surge hopper vent filter (D-6210), bag dump stations/dump hoppers vent filter (Y-6231 through 6235), talc surge bin filter (Y-6251), mixer vent filter (Y-6260), pellet conveying hopper (PE3-07), pellet hopper (PE3-08), and pellet blending/off-spec blending silos (PE3-09 through PE3-15). Pellet dryer vent (Y-7010) shall not exceed a maximum outlet concentration of 0.002 gr/dscf.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Catalyst vent filter (Y-4901): 0.005 gr/dscf, 0.035 lb/hr and 0.153 ton per rolling 12-month period. Receiver bin filter vent (Y-5657) & seed bed filter vents (Y-5651 through 5655): 0.005 gr/dscf, 0.08 lb/hr and 0.35 ton per rolling 12-month period. Granular resin surge hopper vent filter (D-6210): 0.002 gr/dscf, 0.042 lb/hr and 0.184 ton per rolling 12-month period. Bag dump stations/dump hoppers vent filter (Y-6231 through 6235): 0.002 gr/dscf, 0.0515 lb/hr and 0.226 ton per rolling 12-month period. Talc surge bin filter (Y-6251): 0.002 gr/dscf, 0.012 lb/hr and 0.053 ton per rolling 12-month period. Mixer vent filter (Y-6260): 0.002 gr/dscf, 0.009 lb/hr and

0.039 ton per rolling 12-month period. Pellet conveying hopper (PE3-07): 0.002 gr/dscf, 0.004 lb/hr and 0.018 ton per rolling 12-month period. Pellet hopper (PE3-08): 0.002 gr/dscf, 0.06 lb/hr and 0.26 ton per rolling 12-month period. Pellet blending/off-spec blending silos (PE3-09 through PE3-15): 0.002 gr/dscf, 0.048 lb/hr and 0.208 ton per rolling 12-month period for all vents combined. Pellet dryer vent (Y-7010) shall not exceed a maximum outlet concentration of 0.002 gr/dscf, 0.05 lb/hr and 0.11 ton per rolling 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for the catalyst vent filter (Y-4901) and receiver bin filter vent (Y-5657) & seed bed filter vents (Y-5651 through 5655). Fabric filtration at 0.002 gr/dscf for granular resin surge hopper vent filter (D-6210), bag dump stations/dump hoppers vent filter (Y-6231 through 6235), talc surge bin filter (Y-6251), mixer vent filter (Y-6260), pellet conveying hopper (PE3-07), pellet hopper (PE3-08), and pellet blending/off-spec blending silos (PE3-09 through PE3-15). Pellet dryer vent (Y-7010) shall not exceed a maximum outlet concentration of 0.002 gr/dscf.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 5% opacity as a 6 minute average from the following stacks: Catalyst vent filter (Y-4901), Receiver bin filter vent (Y-5657) & seed bed filter vents (Y-5651 through 5655), Granular resin surge hopper vent filter (D-6210), Bag dump stations/dump hoppers vent filter (Y-6231 through 6235), Talc surge bin filter (Y-6251), Mixer vent filter (Y-6260), Pellet conveying hopper (PE3-07), Pellet hopper (PE3-08), Pellet blending/off-spec blending silos (PE3-09 through PE3-15), and Pellet dryer vent (Y-7010)

Process/Pollutant Information

PROCESS NAME: Linear Low/High-Density Polyethylene Manufacturing Unit #4 (P805)

Process Type: 63.999 (Other Polymer and Resin Manufacturing Sources)

Primary Fuel:

Throughput: 0

Process Notes: 450 KTA linear low-density polyethylene (LLDPE)/high density polyethylene (HDPE) manufacturing process; includes purification (ethylene & raw material), catalyst system, reactor system, resin degassing and vent recovery, seed bed & granular storage system, and additive handling and pelletizing.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 80.0000 PPM BY VOLUME. SEE NOTES.

Emission Limit 2: 36.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Thermal oxidizer with a destruction efficiency of 99.5% from analyzer vents, degassing column vents, ethylene purification, low product purge bin vent filter, and high pressure accumulator vent. Closed vent system controlled with flare (high pressure (HP) and/or low pressure (LP)) with a destruction efficiency of 98% from butene dryer regen vent, hexene dryer regen vent, ICA dryer regen vent, ethylene deoxo regen vent, ethylene dryers regen vent, ethylene systems shutdown, non-emergency reactor vents, and product purge bin vent filter. Pressure safety valve (PSV) leaks/releases from raw materials supply pressure PSVs, purification PSVs, reaction PSVs, resin degassing PSVs, and vent recovery PSVs. Implementation of facility specific program reducing fugitive component equipment leaks including applicable component equipment in the polyethylene manufacturing line. Implementation of a program to minimize flaring.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Residual VOC in the polyethylene resin exiting the granular resin surge hopper shall be less than 80 ppmv. The combined VOC emissions for all LLDPE/HDPE manufacturing process vents without VOC control (e.g. not vented to flare or TO) shall not exceed 36.00 tons per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for the catalyst vent filter (Y-4902) and receiver bin filter vent (Y-5957) & seed bed filter vents (Y-5651 through 5655). Fabric filtration at 0.002 gr/dscf for granular resin surge hopper vent filter (D-6510), bag dump stations/dump hoppers vent filter (Y-6531 through 6535), talc surge bin filter (Y-6551), mixer vent filter (Y-6560), pellet conveying hopper (PE4-07), pellet hopper (PE4-08), and pellet blending/off-spec blending silos (PE4-09 through PE4-15). Pellet dryer vent (Y-7310) shall not exceed a maximum outlet concentration of 0.002 gr/dscf.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Catalyst vent filter (Y-4902): 0.005 gr/dscf, 0.035 lb/hr and 0.153 ton per rolling 12-month period. Receiver bin filter vent (Y-5957) & seed bed filter vents (Y-5651 through 5655): 0.005 gr/dscf, 0.08 lb/hr and 0.35 ton per rolling 12-month period. Granular resin surge hopper vent filter (D-6510): 0.002 gr/dscf, 0.042 lb/hr and 0.184 ton per rolling 12-month period. Bag dump stations/dump hoppers vent filter (Y-6531 through 6535): 0.002 gr/dscf, 0.0515 lb/hr and 0.226 ton per rolling 12-month period. Talc surge bin filter (Y-6551): 0.002 gr/dscf, 0.012 lb/hr and 0.053 ton per rolling 12-month period. Mixer vent filter (Y-6560): 0.002 gr/dscf, 0.009 lb/hr and 0.039 ton per rolling 12-month period. Pellet conveying hopper (PE4-07): 0.002 gr/dscf, 0.004 lb/hr and 0.018 ton per rolling 12-month period. Pellet hopper (PE4-08): 0.002 gr/dscf, 0.06 lb/hr and 0.26 ton per rolling 12-month period. Pellet blending/off-spec blending silos (PE4-09 through PE4-15): 0.002 gr/dscf, 0.048 lb/hr and 0.208 ton per rolling 12-month period for all vents combined. Pellet dryer vent (Y-7310) shall not exceed a maximum outlet concentration of 0.002 gr/dscf, 0.05 lb/hr and 0.11 ton per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for the catalyst vent filter (Y-4902) and receiver bin filter vent (Y-5957) & seed bed filter vents (Y-5651 through 5655). Fabric filtration at 0.002 gr/dscf for granular resin surge hopper vent filter (D-6510), bag dump stations/dump hoppers vent filter (Y-6531 through 6535), talc surge bin filter (Y-6551), mixer vent filter (Y-6560), pellet conveying hopper (PE4-07), pellet hopper (PE4-08), and pellet blending/off-spec blending silos (PE4-09 through PE4-15). Pellet dryer vent (Y-7310) shall not exceed a maximum outlet concentration of 0.002 gr/dscf.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Catalyst vent filter (Y-4902): 0.005 gr/dscf, 0.035 lb/hr and 0.153 ton per rolling 12-month period. Receiver bin filter vent (Y-5957) & seed bed filter vents (Y-5651 through 5655): 0.005 gr/dscf, 0.08 lb/hr and 0.35 ton per rolling 12-month period. Granular resin surge hopper vent filter (D-6510): 0.002 gr/dscf, 0.042 lb/hr and 0.184 ton per rolling 12-month period. Bag dump stations/dump hoppers vent filter (Y-6531 through 6535): 0.002 gr/dscf, 0.0515 lb/hr and 0.226 ton per rolling 12-month period. Talc surge bin filter (Y-6551): 0.002 gr/dscf, 0.012 lb/hr and 0.053 ton per rolling 12-month period. Mixer vent filter (Y-6560): 0.002 gr/dscf, 0.009 lb/hr and 0.039 ton per rolling 12-month period. Pellet conveying hopper (PE4-07): 0.002 gr/dscf, 0.004 lb/hr and 0.018 ton per rolling 12-month period. Pellet hopper (PE4-08): 0.002 gr/dscf, 0.06 lb/hr and 0.26 ton per rolling 12-month period. Pellet blending/off-spec blending silos (PE4-09 through PE4-15): 0.002 gr/dscf, 0.048 lb/hr and 0.208 ton per rolling 12-month period for all vents combined. Pellet dryer vent (Y-7310) shall not exceed a maximum outlet concentration of 0.002 gr/dscf, 0.05 lb/hr and 0.11 ton per rolling 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for the catalyst vent filter (Y-4902) and receiver bin filter vent (Y-5957) & seed bed filter vents (Y-5651 through 5655). Fabric filtration at 0.002 gr/dscf for granular resin surge hopper vent filter (D-6510), bag dump stations/dump hoppers vent filter (Y-6531 through 6535), talc surge bin filter (Y-6551), mixer vent filter (Y-6560), pellet conveying hopper (PE4-07), pellet hopper (PE4-08), and pellet blending/off-spec blending silos (PE4-09 through PE4-15). Pellet dryer vent (Y-7310) shall not exceed a maximum outlet concentration of 0.002 gr/dscf.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 5% opacity as a 6 minute average from the following stacks: Catalyst vent filter (Y-4902), Receiver bin filter vent (Y-5957) & seed bed filter vents (Y-5651 through 5655), Granular resin surge hopper vent filter (D-6510), Bag dump stations/dump hoppers vent filter (Y-6531 through 6535), Talc surge bin filter (Y-6551), Mixer vent filter (Y-6560), Pellet conveying hopper (PE4-07), Pellet hopper (PE4-08), Pellet blending/off-spec blending silos (PE4-09 through PE4-15), and Pellet dryer vent (Y-7310)

Process/Pollutant Information

PROCESS NAME: OSBL Thermal Oxidizers (P001 and P002)

Process Type: 63.999 (Other Polymer and Resin Manufacturing Sources)

Primary Fuel: Natural gas

Throughput: 6.20 MMBTU/H

Process Notes: Two identical OSBL Thermal Oxidizers 1 and 2; 6.2 MMBtu/hr thermal oxidizer. Thermal oxidizer control is used to meet control requirements associated with BACT, NSPS, BAT, MACT, and NESHAP for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001. It should be noted that the thermal oxidizer control system consists of two identical thermal oxidizers (P001 and P002). One thermal oxidizer will be operational and providing required control at all times while the other unit is ready for use as a backup. Limits are for single oxidizer except as noted.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.5100 LB/H SEE NOTES.

Emission Limit 2: 2.2200 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of pipeline natural gas for TO pilots

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Thermal oxidizer control is used to meet control requirements associated with BACT, New Source Performance Standards (NSPS), BAT, Maximum Achievable Control Technology, and National Emission Standards for Hazardous Air Pollutants for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.6100 LB/H SEE NOTES.

Emission Limit 2: 2.6700 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of pipeline natural gas for TO pilots

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Thermal oxidizer control is used to meet control requirements associated with BACT, New Source Performance Standards (NSPS), BAT, Maximum Achievable Control Technology, and National Emission Standards for Hazardous Air Pollutants for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0500 LB/H SEE NOTES.

Emission Limit 2: 0.2000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of pipeline natural gas for TO pilots

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Thermal oxidizer control is used to meet control requirements associated with BACT, New Source Performance Standards (NSPS), BAT, Maximum Achievable Control Technology, and National Emission Standards for Hazardous Air Pollutants for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0500 LB/H SEE NOTES.

Emission Limit 2: 0.2000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of pipeline natural gas for TO pilots

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Thermal oxidizer control is used to meet control requirements associated with BACT, New Source Performance Standards (NSPS), BAT, Maximum Achievable Control Technology, and National Emission Standards for Hazardous Air Pollutants for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0300 LB/H SEE NOTES.

Emission Limit 2: 0.1400 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001. The control efficiency is 99.5%.

Est. % Efficiency: 99.500

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Thermal oxidizer control is used to meet control requirements associated with BACT, New Source Performance Standards (NSPS), BAT, Maximum Achievable Control Technology, and National Emission Standards for Hazardous Air Pollutants for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 3161.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of pipeline natural gas for TO pilots

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Thermal oxidizer control is used to meet control requirements associated with BACT, New Source Performance Standards (NSPS), BAT, Maximum Achievable Control Technology, and National Emission Standards for Hazardous Air Pollutants for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of pipeline natural gas for TO pilots

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Thermal oxidizer control is used to meet control requirements associated with BACT, New Source Performance Standards (NSPS), BAT, Maximum Achievable Control Technology, and National Emission Standards for Hazardous Air Pollutants for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001.

Process/Pollutant Information

PROCESS NAME: High Pressure Ground Flare (P003)

Process Type: 19.310 (Chemical Plant Flares)

Primary Fuel: Natural gas

Throughput: 1.80 MMBTU/H

Process Notes: 1.8 MMBtu/hr high-pressure, multi-point, staged ground flare. The high pressure (HP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the HP ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.9171 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The high pressure (HP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the HP ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.5360 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The high pressure (HP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the HP ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0590 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The high pressure (HP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the HP ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0590 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The high pressure (HP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the HP ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.4940 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805. The control efficiency is 98%

Est. % Efficiency: 98.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The high pressure (HP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the HP ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 923.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The high pressure (HP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the HP ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: No visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

Process/Pollutant Information

PROCESS NAME: Low Pressure Ground Flare (P004)

Process Type: 19.310 (Chemical Plant Flares)

Primary Fuel: Natural gas

Throughput: 0.78 MMBTU/H

Process Notes: 0.78 MMBtu/hr low-pressure, multi-point, staged ground flare. The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 1.9700 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) The low pressure (LP) flare controls VOC emissions from units P804 and P805. The control efficiency is 98%.

Est. % Efficiency: 98.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 1.2600 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.2320 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0260 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0260 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 400.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) use of natural gas as pilot light fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) use of natural gas as pilot light fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: No visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

Process/Pollutant Information

PROCESS NAME: Wastewater Collection and Treatment (P806)

Process Type: 64.006 (Wastewater Collection & Treatment)

Primary Fuel:

Throughput: 0

Process Notes: Wastewater treatment plant and associated collection and treatment systems for treatment of wastewater generated in the ethylene manufacturing process, the high-density polyethylene units, the linear low-density polyethylene units, the air separation unit, and all sanitary wastewater; includes an oily water treatment plant, a process biological treatment plant and a sanitary treatment plant; emissions sources include: a 12% NaClO2 storage tank (T-5205) and a 98% sulfuric acid storage tank (T-3502) vented to atmosphere, a wet air oxidation unit, an equalization tank (T-6503), an oily wastewater storage tank (T-6501), a corrugated plate interceptor (CPI) package, a waste oil tank (T-6502), a dissolved gas floatation (DGF) unit and GCF/CPI sump covered and vented to one primary and one backup 1.0 MMBtu/hr thermal oxidizers

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0100 LB/H

Emission Limit 2: 0.0200 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: MACT

Control Method: (B) i. Use an enhanced biodegradation unit to maintain the annual benzene quantity from facility waste at less than 10 megagrams (MG; 11 tons) by combining waste streams with greater than 10 ppmw benzene with waste streams with less than 10 ppmw benzene to form a combined waste stream with a benzene concentration less than 10 ppmw; ii. Route emissions from wastewater generated in the ethylene manufacturing process to a thermal oxidizer designed to achieve >99.5% destruction efficiency for volatile organic compounds (VOC); iii. Cover and

route emissions from the process wastewater equalization tank (T-6503), the waste oil drum (T-6502), the oily wastewater storage tank (T-6501) and the wet air oxidation unit to a thermal oxidizer designed to achieve >99.5% destruction efficiency for VOC; iv. Emissions from wastewater generated in the high-density polyethylene units must comply with the applicable requirements of 40 CFR Part 63, Subpart FFFF.

Est. % Efficiency: 99.500
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0980 LB/H
Emission Limit 2: 0.4300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0820 LB/H
Emission Limit 2: 0.3600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: EPA/OAR Mthd 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0080 LB/H
Emission Limit 2: 0.0300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0080 LB/H
Emission Limit 2: 0.0300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0080 LB/H
Emission Limit 2: 0.0300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: EPA/OAR Mthd 9
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 513.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Fugitive Emissions (P807)
Process Type: 64.002 (Equipment Leaks (valves, compressors, pumps, etc.))
Primary Fuel:
Throughput: 0

Process Notes: Facility-wide fugitive emissions from equipment and process unit leaks

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 99.3800 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , MACT

Control Method: (A) Enhanced connector monitoring requirements to the most stringent leak detection and repair (LDAR) regulation applicable to affected equipment/process units. The following identifies LDAR requirements for affected equipment/process units which have been determined to representative of BACT: i. 40 CFR Part 63 Subpart UU as applicable to the ethylene manufacturing process with enhanced connector monitoring; ii. 40 CFR Part 60 Subpart VVa as applicable to the polyethylene manufacturing process with enhanced connector monitoring; The LDAR programs indicated above which are representative of BACT shall implement the following enhanced connector monitoring requirements: i. connector monitoring subsequent to the initial monitoring required shall be performed on a quarterly basis; ii. if following the initial four (4) consecutive quarters, the percent leaking connectors in a process unit is less than 0.5 percent during the most recent quarterly monitoring event, then the frequency of connector monitoring can be reduced to semi-annual; iii. if following two (2) consecutive semi-annual periods, the percent leaking connectors in a process unit is less than 0.5 percent during the most recent semi-annual monitoring event, then the frequency of connector monitoring can be reduced to annual. iv. If more than or equal to 0.5 percent of the connectors in a process unit are determined to be leaking during any one of the semi-annual or annual monitoring events then the frequency of monitoring shall be returned to a quarterly basis.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Enhanced connector monitoring requirements to the most stringent leak detection and repair (LDAR) regulation applicable to affected equipment/process units. The following identifies LDAR requirements for affected equipment/process units which have been determined to representative of BACT: i. 40 CFR Part 63 Subpart UU as applicable to the ethylene manufacturing process with enhanced connector monitoring; ii. 40 CFR Part 60 Subpart VVa as applicable to the polyethylene manufacturing process with enhanced connector monitoring; The LDAR programs indicated above which are representative of BACT shall implement the following enhanced connector monitoring requirements: i. connector monitoring subsequent to the initial monitoring required shall be performed on a quarterly basis; ii. if following the initial four (4) consecutive quarters, the percent leaking connectors in a process unit is less than 0.5 percent during the most recent quarterly monitoring event, then the

frequency of connector monitoring can be reduced to semi-annual; iii. if following two (2) consecutive semi-annual periods, the percent leaking connectors in a process unit is less than 0.5 percent during the most recent semi-annual monitoring event, then the frequency of connector monitoring can be reduced to annual. iv. If more than or equal to 0.5 percent of the connectors in a process unit are determined to be leaking during any one of the semi-annual or annual monitoring events then the frequency of monitoring shall be returned to a quarterly basis.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 35.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) i. an LDAR program for leaks of methane from equipment and piping components in tail gas (fuel gas) and natural gas service. The LDAR program will involve sensory monitoring methods for leaks; ii. methane contained in leaks associated with fugitive VOCs will be minimized by the implementation of BACT for fugitive leaks of VOC.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: CO2e emissions from leaks of methane from equipment and piping components in tail gas (fuel gas) and natural gas service at the entire facility shall not exceed 35 tons per rolling 12-month period.

Process/Pollutant Information

PROCESS NAME: Light and Heavy Pygas Railcar Loading (J001)

Process Type: 64.005 (Transfer of SOCMI Chemicals (loading/unloading, filling, etc.))

Primary Fuel:

Throughput: 0

Process Notes: Loading of railcars (2 loading arms) with light and heavy pygas controlled by the OSBL thermal oxidizer (P001 or P002).

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (A) Thermal oxidizer (TO) achieving a destruction efficiency of >99.5%. The TO controlling heavy and light pygas railcar loading operations is permitted as a separate and individual emissions unit (emissions unit P001 or P002). For efficient permitting structure, the applicable operational restrictions, monitoring, record keeping, reporting, and testing associated with TO control are contained within the requirements of emissions unit P001 and P002. A separate emissions unit (P807) associated with fugitive leaks of VOC, HAP*, VHAP/Benzene*, and GHGs* from all component equipment at the facility subject to the leak control and repair regulations above has been established. For efficient permitting structure, the applicable requirements (limitations, operational restrictions, monitoring, record keeping, reporting, and testing) associated with equipment leak control and repair for VOC, HAP*, VHAP/Benzene*, and GHGs* are contained within the requirements of emissions unit P807.

Est. % Efficiency: 99.500

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The TO controlling heavy and light pygas railcar loading operations is permitted as a separate and individual emissions unit (emissions unit P001 or P002). For efficient permitting structure, the applicable operational restrictions, monitoring, record keeping, reporting, and testing associated with TO control are contained within the requirements of emissions unit P001 and P002. A separate emissions unit (P807) associated with fugitive leaks of VOC, HAP*, VHAP/Benzene*, and GHGs* from all component equipment at the facility subject to the leak control and repair regulations above has been established. For efficient permitting structure, the applicable requirements (limitations, operational restrictions, monitoring, record keeping, reporting, and testing) associated with equipment leak control and repair for VOC, HAP*, VHAP/Benzene*, and GHGs* are contained within the requirements of emissions unit P807.

Process/Pollutant Information

PROCESS NAME: HDPE Railcar Loading 1 (P901)

Process Type: 64.005 (Transfer of SOCMI Chemicals (loading/unloading, filling, etc.))

Primary Fuel:

Throughput: 0

Process Notes: Railcar loading of high-density polyethylene (HDPE) pellets controlled with baghouse

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.002 gr/dscf for PE Railcar Loading Bin (PE1-21), PE Railcar Loading Bin (PE2-21), PE Railcar Loading (PE1-22), and PE Railcar Loading (PE2-22). Fabric filtration at 0.001 gr/dscf for the pellet cleaning package vent (PE-RPC).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PE Railcar Loading Bin (PE1-21): 0.002 gr/dscf, 0.018 lb/hr and 0.081ton per rolling 12-month period. PE Railcar Loading Bin (PE2-21): 0.002 gr/dscf, 0.018 lb/hr and 0.081 ton per rolling 12-month period. PE Railcar Loading (PE1-22): 0.002 gr/dscf, 0.0002 lb/hr and 0.0009 ton per rolling 12-month period. PE Railcar Loading (PE2-22): 0.002 gr/dscf, 0.0002 lb/hr and 0.0009 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE1-20): 0.002 gr/dscf, 0.018 lb/hr and 0.081 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE2-20): 0.002 gr/dscf, 0.018 lb/hr and 0.081 ton per rolling 12-month period. Pellet cleaning package vent (PE-RPC): 0.001 gr/dscf, 0.009 lb/hr and 0.038 ton per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.002 gr/dscf for PE Railcar Loading Bin (PE1-21), PE Railcar Loading Bin (PE2-21), PE Railcar Loading (PE1-22), and PE Railcar Loading (PE2-22). Fabric filtration at 0.0005 gr/dscf for the pellet cleaning package vent (PE-RPC).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PE Railcar Loading Bin (PE1-21): 0.002 gr/dscf, 0.018 lb/hr and 0.081ton per rolling 12-month period. PE Railcar Loading Bin (PE2-21): 0.002 gr/dscf, 0.018 lb/hr and 0.081 ton per rolling 12-month period. PE Railcar Loading (PE1-22): 0.002 gr/dscf, 0.0002 lb/hr and 0.0009 ton per rolling 12-month period. PE Railcar Loading (PE2-22): 0.002 gr/dscf, 0.0002 lb/hr and 0.0009 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE1-20): 0.002 gr/dscf, 0.018 lb/hr and 0.081 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE2-20): 0.002 gr/dscf, 0.018 lb/hr and 0.081 ton per rolling 12-month period. Pellet cleaning package vent (PE-RPC): 0.0005 gr/dscf, 0.004 lb/hr and 0.019 ton per rolling 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.002 gr/dscf for PE Railcar Loading Bin (PE1-21), PE Railcar Loading Bin (PE2-21), PE Railcar Loading (PE1-22), and PE Railcar Loading (PE2-22). Fabric filtration at 0.001 gr PM10/dscf for the pellet cleaning package vent (PE-RPC).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: HDPE Railcar Loading 2 (P902)

Process Type: 64.005 (Transfer of SOCMI Chemicals (loading/unloading, filling, etc.))

Primary Fuel:

Throughput: 0

Process Notes: Railcar loading of linear low-density polyethylene/high density polyethylene (LLDPE/HDPE) pellets controlled with baghouse. Loading operations include pellet cleaning package process.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.002 gr/dscf for PE Railcar Loading Bin (PE3-17), PE Railcar Loading Bin (PE4-17), PE Railcar Loading (PE3-18), and PE Railcar Loading (PE4-18). Fabric filtration at 0.001 gr/dscf for the pellet cleaning package vent (PE-RPC).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PE Railcar Loading Bin (PE3-17): 0.002 gr/dscf, 0.024 lb/hr and 0.0104 ton per rolling 12-month period. PE Railcar Loading Bin (PE4-17): 0.002 gr/dscf, 0.024 lb/hr and 0.104 ton per rolling 12-month period. PE Railcar Loading (PE3-18): 0.002 gr/dscf, 0.0003 lb/hr and 0.0013 ton per rolling 12-month period. PE Railcar Loading (PE4-18): 0.002 gr/dscf, 0.003 lb/hr and 0.0013 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE3-16): 0.002 gr/dscf, 0.024 lb/hr and 0.104 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE4-16): 0.002 gr/dscf, 0.024 lb/hr and 0.104 ton per rolling 12-month period. Pellet cleaning package vent (PE-RPC): 0.001 gr/dscf, 0.009 lb/hr and 0.038 ton per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.002 gr/dscf for PE Railcar Loading Bin (PE3-17), PE Railcar Loading Bin (PE4-17), PE Railcar Loading (PE3-18), and PE Railcar Loading (PE4-18). Fabric filtration at 0.0005 gr/dscf for the pellet cleaning package vent (PE-RPC).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PE Railcar Loading Bin (PE3-17): 0.002 gr/dscf, 0.024 lb/hr and 0.0104 ton per rolling 12-month period. PE Railcar Loading Bin (PE4-17): 0.002 gr/dscf, 0.024 lb/hr and 0.104 ton per rolling 12-month period. PE Railcar Loading (PE3-18): 0.002 gr/dscf, 0.0003 lb/hr and 0.0013 ton per rolling 12-month period. PE Railcar Loading (PE4-18): 0.002 gr/dscf, 0.003 lb/hr and 0.0013 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE3-16): 0.002 gr/dscf, 0.024 lb/hr and 0.104 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE4-16): 0.002 gr/dscf, 0.024 lb/hr and 0.104 ton per rolling 12-month period. Pellet cleaning package vent (PE-RPC): 0.0005 gr/dscf, 0.004 lb/hr and 0.019 ton per rolling 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.002 gr/dscf for PE Railcar Loading Bin (PE3-17), PE Railcar Loading Bin (PE4-17), PE Railcar Loading (PE3-18), and PE Railcar Loading (PE4-18). Fabric filtration at 0.001 gr PM10/dscf for the pellet cleaning package vent (PE-RPC).

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Facility Roadways (F001)
Process Type: 99.140 (Paved Roads)
Primary Fuel:
Throughput: 182865.00 MI/YR
Process Notes: Facility roadways and parking areas; maximum of 182,865 annual vehicle miles traveled

POLLUTANT NAME: Particulate matter, fugitive
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1: 1.8800 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) i. Pave all in-plant haul roads and parking areas; ii. Implement best management practices including posting and limiting vehicle speeds to 20 miles per hour and water spraying or sweeping as needed based on the daily inspections conducted
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3800 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) i. Pave all in-plant haul roads and parking areas; ii. Implement best management practices including posting and limiting vehicle speeds to 20 miles per hour and water spraying or sweeping as needed based on the daily inspections conducted
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0900 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) i. Pave all in-plant haul roads and parking areas; ii. Implement best management practices including posting and limiting vehicle speeds to 20 miles per hour and water spraying or sweeping as needed based on the daily inspections conducted
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) i. Pave all in-plant haul roads and parking areas; ii. Implement best management practices including posting and limiting vehicle speeds to 20 miles per hour and water spraying or sweeping as needed based on the daily inspections conducted

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: No visible particulate emissions from any paved roadway or parking area except for a period of time not to exceed one minute during any 60-minute observation period.

Process/Pollutant Information

PROCESS NAME: Firewater Pumps (P005 and P006)

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 402.00 HP

Process Notes: Two identical Firewater Pumps 1 and 2; 300 kW (402 HP) emergency diesel-fired firewater pump engine. Limits are for single pump except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.6400 LB/H SEE NOTES.

Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 3.0000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII and employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits are for non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx). Non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx) emissions shall not exceed 4.0 g/kW-hour (3.0 g/HP-hour), 2.64 pounds per hour and 0.13 ton per rolling, 12-month period.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 2.6400 LB/H SEE NOTES.

Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 3.0000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII and employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits are for non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx). Non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx) emissions shall not exceed 4.0 g/kW-hour (3.0 g/HP-hour), 2.64 pounds per hour and 0.13 ton per rolling, 12-month period.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.3100 LB/H

Emission Limit 2: 0.1200 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII and employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1300 LB/H

Emission Limit 2: 0.0066 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII and employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1300 LB/H

Emission Limit 2: 0.0066 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII and employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1300 LB/H

Emission Limit 2: 0.0066 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII and employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 23.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good operating practices (proper maintenance and operation)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII and employ good combustion practices per the manufacturer's operating manual
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Emergency Diesel-fired Generator Engine (P007)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 3353.00 HP
Process Notes: 2,500 kW (3,353 HP) emergency diesel-fired generator engine

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 37.4100 LB/H SEE NOTES.
Emission Limit 2: 1.8700 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 4.8000 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission limits are for non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx). Non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx) emissions shall not exceed 6.4 g/kW-hour (4.8 g/HP-hour), 37.41 pounds per hour and 1.87 tons per rolling, 12-month period.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 37.4100 LB/H SEE NOTES.

Emission Limit 2: 1.8700 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits are for non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx). Non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx) emissions shall not exceed 6.4 g/kW-hour (4.8 g/HP-hour), 37.41 pounds per hour and 1.87 tons per rolling, 12-month period.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 19.2500 LB/H

Emission Limit 2: 0.9600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.1000 LB/H

Emission Limit 2: 0.0550 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.1000 LB/H

Emission Limit 2: 0.0550 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.1000 LB/H

Emission Limit 2: 0.0550 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0150 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent during the acceleration mode; 15 percent during the lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 200.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good operating practices (proper maintenance and operation)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: 1,000 kW Emergency Generators (P008 - P010)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 1341.00 HP
Process Notes: Three identical ECU Generators 1 to 3; 1,000 kW (1,341 HP) emergency diesel-fired generator engine. Limits are for single generator except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 14.9600 LB/H SEE NOTES.

Emission Limit 2: 0.7500 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits are for non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx). Non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx) emissions shall not exceed 6.4 g/kW-hour (4.8 g/HP-hour), 14.96 pounds per hour and 0.75 ton per rolling, 12-month period.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 14.9600 LB/H SEE NOTES.

Emission Limit 2: 0.7500 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits are for non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx). Non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx) emissions shall not exceed 6.4 g/kW-hour (4.8 g/HP-hour), 14.96 pounds per hour and 0.75 ton per rolling, 12-month period.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 7.7000 LB/H

Emission Limit 2: 0.3900 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4400 LB/H

Emission Limit 2: 0.0220 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4400 LB/H
Emission Limit 2: 0.0220 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4400 LB/H
Emission Limit 2: 0.0220 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent during the acceleration mode; 15 percent during the lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 80.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) good operating practices (proper maintenance and operation)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Cooling Tower (P011)
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel:
Throughput: 13.88 MMGAL/H
Process Notes: Multi-cell, induced-draft, counter-flow evaporative cooling tower with side stream filtration system and high efficiency mist/drift eliminator.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 5.0700 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) High efficiency drift eliminator designed to achieve a 0.0005% drift rate and maintenance of a total dissolved solids (TDS) content not to exceed 2,000 ppm in the circulating cooling water based on a rolling 12-month average.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 3.2200 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) High efficiency drift eliminator designed to achieve a 0.0005% drift rate and maintenance of a total dissolved solids (TDS) content not to exceed 2,000 ppm in the circulating cooling water based on a rolling 12-month average.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0100 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) High efficiency drift eliminator designed to achieve a 0.0005% drift rate and maintenance of a total dissolved solids (TDS) content not to exceed 2,000 ppm in the circulating cooling water based on a rolling 12-month average.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 42.5500 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: MACT
Control Method: (P) (a) VOC content in cooling water shall not exceed a concentration of 0.7 lb/MMgal; (b) Compliance with heat exchange leak monitoring and repair requirements for affected ethylene manufacturing process units contained in 40 CFR Part 63 Subpart XX
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Facility Information

RBLC ID:	LA-0331 (final)	**Date Determination Last Updated:**	06/19/2019
Corporate/Company Name:	VENTURE GLOBAL CALCASIEU PASS, LLC	**Permit Number:**	PDS-LA-805
Facility Name:	CALCASIEU PASS LNG PROJECT	**Permit Date:**	09/21/2018 (actual)
Facility Contact:	GRAHAM MCARTHUR 202-759-6741 GMCARTHUR@VGLNG.COM	**FRS Number:**	Not Found
Facility Description:	New Liquefied Natural Gas (LNG) production, storage, and export terminal.	**SIC Code:**	4925
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221210
Permit URL:			
EPA Region:	6	**COUNTRY:**	USA
Facility County:	CAMERON		

Facility State:	LA
Facility ZIP Code:	70631
Permit Issued By:	LOUISIANA DEPARTMENT OF ENV QUALITY (Agency Name) MR. BRYAN D. JOHNSTON(Agency Contact) (225)219-3450 BRYAN.JOHNSTON@LA.GOV
Other Agency Contact Info:	Ms. Mei Wu, (225)219-3180
Permit Notes:	Application Received September 2, 2015.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	763.1500 (Tons/Year)
Nitrogen Oxides (NOx)	476.5400 (Tons/Year)
Particulate Matter (PM)	241.8500 (Tons/Year)
Sulfur Oxides (SOx)	94.7700 (Tons/Year)
Volatile Organic Compounds (VOC)	74.1000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	Combined Cycle Combustion Turbines (CCCT1 to CCCT5)
Process Type:	15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel:	Natural Gas
Throughput:	921.00 MM BTU/h
Process Notes:	

POLLUTANT NAME:	Nitrogen Oxides (NOx)
CAS Number:	10102
Test Method:	Unspecified
Pollutant Group(s):	(InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:	2.5000 PPMV 30 DAY ROLLING AVERAGE
Emission Limit 2:	
Standard Emission:	

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS , OPERATING PERMIT
Control Method:	(B) Low NOx Burners, SCR, and Good Combustion Practices
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are in ppmv @ 15% O2; Averaging time is 30 Day Rolling Average during Normal Operations.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 5.0000 PPMV 30 DAY ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT , NSPS
Control Method: (B) Oxidation Catalyst, Proper Design, Good Combustion Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are ppmv @15% O2; Averaging time is 30 Day Rolling Average During Normal Operations.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 9.5300 LB/H 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT , NSPS
Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Averaging time 3-hour Average during duct burner and turbine operations.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 9.5300 LB/H 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Averaging time 3-hour Average during duct burner and turbine operations.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 4.0000 PPMV ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Low Sulfur Fuel and Proper Engineering Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: BACT limit is 4 PPMV H2S; Annual Average Content in Fuel.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.1000 PPMV 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT , NSPS
Control Method: (B) Catalytic Oxidation, Proper Equipment Design and Good Combustion Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are in ppmv @ 15% O2; Averaging Time 3-Hour Average During Normal Operations.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 2602275.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Combust low carbon fuel gas and good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Annual Total for 5 Combined Cycle Turbines

Process/Pollutant Information

PROCESS NAME: Hot Oil Heaters (HOH1 to HOH6)
Process Type: 12.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural Gas
Throughput: 115.00 MM BTU/h
Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0380 LB/MM BTU 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (A) Ultra Low NOx Burners and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Subject to 40 CFR 60 Subpart Db

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0820 LB/ MM BTU 3 HOUR AVERAGE
Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Subject to 40 CFR 60 Subpart Db

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MM BTU 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Subject to 40 CFR 60 Subpart Db

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MM BTU 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Subject to 40 CFR 60 Subpart Db

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0006 LB/MM BTU 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusive Use Low Sulfur Fuel Gas and Proper Engineering Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Subject to 40 CFR 60 Subpart Db

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0054 LB/MM BTU 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Proper Equipment Design and Operation, Good Combustion Practices, and Exclusive Combustion of Fuel Gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Subject to 40 CFR 60 Subpart Db

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 354456.0000 T/YR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusive combustion of Low-Carbon Fuel Gas, Good Combustion Practices, Good Operation & Maintenance Practices and Insulation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: BACT Limit based on Annual Total for 6 Heaters. Subject to 40 CFR 60 Subpart Db

Process/Pollutant Information

PROCESS NAME: Acid Gas Thermal Oxidizer (AGTO)

Process Type: 19.200 (Emission Control Afterburners & Incinerators (combustion gasses only))

Primary Fuel: Natural Gas

Throughput: 186.00 MM BTU/h

Process Notes: Thermal Oxidizer to combust sour gas from the acid removal unit.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.1500 LB/MM BTU 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (B) Low NOx Burners and Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0900 LB/MM BTU 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (P) Proper Equipment Design and Operation, Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0082 LB/MM BTU 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0082 LB/MM BTU 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 2.3700 LB/MM BTU 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper Equipment Design and Operation, Good Combustion Practices, Pre-Treatment Sulfur Content in the Inlet Gas Stream
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: H2S concentration in fuel will be limited to 4 ppmv. Sulfur content sampled quarterly.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0100 LB/MM BTU 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper Equipment Design and Operation, Good Combustion Practices
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 768337.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Gaseous Fuel, Good Combustion Practices, Good Operation & Maintenance Practices and Insulation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Large Emergency Engines (>50kW)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel Fuel
Throughput: 5364.00 HP
Process Notes: Three emergency black-start engines and two emergency generators

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 5.6000 G/KW-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good Combustion and Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 100 hr/yr.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good Combustion and Operating Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 100 hr/yr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good combustion and operating practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 100 hr/yr.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good combustion and operating practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 100 hr/yr.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.7900 G/KW-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good combustion and operating practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 100 hr/yr.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: LB/HP-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Ultra-low sulfur diesel fuel with sulfur content of 15 ppmv.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 100 hr/yr.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1481.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Good Combustion of Practices and Good Operation and Maintenance Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Annual Total for 5 emergency engines.

Process/Pollutant Information

PROCESS NAME: Fugitive Equipment Leaks
Process Type: 50.002 (Natural Gas/Gasoline Processing Plants)
Primary Fuel:
Throughput: 0
Process Notes: Fugitive Emissions

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 5.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper piping design and compliance with LAC 33:III.2111.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 3141.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper piping design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Flares (WRMFLR, CLDFLR, LPFLR)
Process Type: 19.390 (Other Flares)
Primary Fuel: Natural Gas
Throughput: 21.74 MM BTU/h
Process Notes: Flare system to provide safe and reliable disposal of streams released during start-up, shutdown, plant upsets, and emergency conditions.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0680 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.3100 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0074 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0074 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 4.0000 PPMV
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices. Combustion of Low Sulfur Gas in Pilot fuel.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limit Unit is ppmv H2S. When Flare is Operating. Limit to Sulfur Content of Fuel.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0060 LB/H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Marine Loading Flare
Process Type: 19.390 (Other Flares)
Primary Fuel: Natural Gas
Throughput: 0.31 MM BTU/h
Process Notes: Control Device for LNG loading process.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0680 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.3100 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0074 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0074 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 4.0000 PPMV
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices. Combustion of Low Sulfur Gas in Pilot Fuel.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limit of Sulfur Content in fuel 4 ppmv H2S.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0060 LB/H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is in Normal Operation.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1107.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Annual Total including Gassing Up Operation.

Process/Pollutant Information

PROCESS NAME: Aeroderivative Simple Cycle Combustion Turbine
Process Type: 16.110 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: Natural Gas
Throughput: 263.00 MM BTU/h
Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 25.0000 PPMV 30 DAY ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (B) Selective Catalytic Reduction (SCR), exclusive combustion of fuel gas, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are in ppmv @ 15% O2; Averaging time is 30 Day Rolling Average during normal operations. Subject to 40 CFR 60 Subpart KKKK

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 36.0000 PPMV 30 DAY ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Proper Equipment Design, Proper Operation, and Good Combustion Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are in ppmv @ 15% O2; Averaging time is 30 Day Rolling Average during normal operations. Subject to 40 CFR 60 Subpart KKKK

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 4.5000 LB/H 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Fuel Gas, Good Combustion Practices Including Proper Burner Design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Averaging time is 3-hour average during normal operations. Subject to 40 CFR 60 Subpart KKKK.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 4.5000 LB/H 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Fuel Gas, Good Combustion Practices Including Proper Burner Design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Averaging time is 3-hour average during normal operations. Subject to 40 CFR 60 Subpart KKKK.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 4.0000 PPMV ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Low Sulfur Fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: The H2S concentration in fuel limited to 4 ppmv H2S. Averaging time is Annual Average Content in Fuel.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.5000 PPMV 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Proper Equipment Design, Proper Operation, and Good Combustion Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are in ppmv @ 15% O2. Averaging time is 3-hour Average during normal operations.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 134907.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Combust low carbon fuel gas, good combustion practices, good operation and maintenance practices and insulation.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Subject to 40 CFR 60 Subpart KKKK.

Process/Pollutant Information

PROCESS NAME: Storage Tanks

Process Type: 50.002 (Natural Gas/Gasoline Processing Plants)

Primary Fuel:

Throughput: 7183.15 CF

Process Notes: Pentane and Amine Flash Drums

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (P) Follow the best practical house keeping and maintenance practices as specified in LAC 33:III.2113.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Amine Flash Drums controlled by the Acid Gas Thermal Oxidizer. Pentane Tank controlled by the Warm Flare.

Process/Pollutant Information

PROCESS NAME: Simple Cycle Combustion Turbines (SCCT1 to SCCT3)

Process Type: 15.110 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural Gas

Throughput: 927.00 MM BTU/h

Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 9.0000 PPMV 30 DAY ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (B) Dry Low NOx Combustor Design, Good Combustion Practices, and Natural Gas Combustion.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are in ppmv @ 15% O2; 30 day rolling average during normal operations. Subject to 40 CFR 60 Subpart KKKK

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 25.0000 PPMV 30 DAY ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Proper Equipment Design, Proper Operation, and Good Combustion Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are in ppmv @ 15% O2; 30 day rolling average during normal operations. Subject to 40 CFR 60 Subpart KKKK

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 8.0000 LB/H 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices, Including Proper Burner Design.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Averaging time 3-hour Average during normal operations. Subject to 40 CFR 60 Subpart KKKK

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 8.0000 LB/H 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices, Including Proper Burner Design.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Averaging time is 3-hour average during normal operations. Subject to 40 CFR 60 Subpart KKKK

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 4.0000 PPMV ANNUAL AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (P) Exclusive Combustion of low sulfur fuel - Fuel sulfur content

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Units are in ppmv H2S; Annual Average Sulfur Content in Fuel

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 1.4000 PPMV 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT , NSPS

Control Method: (P) Proper Equipment Design, Proper Operation, and Good Combustion Practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Units are in PPMV @ 15% O2; Averaging period is 3 hour average during normal operations. Subject to 40 CFR 60 Subpart KKKK.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1426146.0000 T/YR ANNUAL TOTAL

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusively combust low carbon fuel gas, good combustion practices, good operation and maintenance practices, and insulation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Annual Total for 3 simple cycle turbines. Subject to 40 CFR 60 Subpart KKKK.

Process/Pollutant Information

PROCESS NAME: Firewater Pumps

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel Fuel

Throughput: 634.00 kW

Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.1000 G/HP-H

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good Combustion and Operating Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 50 h/yr.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.7000 G/HP-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good Combustion and Operating Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 50 hr/yr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3000 G/HP-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good combustion and operating practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 50 hr/yr.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3000 G/HP-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good combustion and operating practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 50 hr/yr.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.4400 G/HP-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good combustion and operating practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 50 hr/yr.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0400 LB/GAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Ultra-Low Sulfur Diesel Fuel with Sulfur Content of 15 ppmv.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 50 hr/yr.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 44.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Control Method:	(P) Good Combustion Practices and Good Operation and Maintenance Practices.
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	Annual total for 2 firewater pumps.

Facility Information

RBLC ID:	IL-0129 (final)	**Date Determination Last Updated:**	02/19/2019
Corporate/Company Name:	CPV THREE RIVERS, LLC	**Permit Number:**	16060032
Facility Name:	CPV THREE RIVERS ENERGY CENTER	**Permit Date:**	07/30/2018 (actual)
Facility Contact:	MIKE BRUNO 781-817-8972 MBRUNO@CPV.COM	**FRS Number:**	Not Found
Facility Description:	The proposed facility is designed to generate baseload power. It will consist of two combined-cycle generating units, each with a combustion turbine and associated heat recovery steam generator (HRSG). The turbines would burn natural gas and ultra-low sulfur diesel (ULSD) as a backup fuel. Other units include an auxiliary boiler, fuel heater, engines, natural gas piping and components, circuit breakers and roadways.	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	GRUNDY		
Facility State:	IL		
Facility ZIP Code:	60450		
Permit Issued By:	ILLINOIS EPA, BUREAU OF AIR (Agency Name) MR. RAY PILAPIL(Agency Contact) (217) 782-2113 ray.pilapil@illinois.gov		
Other Agency Contact Info:	Illinois EPA, Bureau of Air Permit Section		
Permit Notes:			

Facility-wide Emissions:	**Pollutant Name:**	**Facility-wide Emissions Increase:**
	Carbon Monoxide	268.0000 (Tons/Year)

Nitrogen Oxides (NOx)	318.0000 (Tons/Year)
Particulate Matter (PM)	121.3000 (Tons/Year)
Sulfur Oxides (SOx)	36.9000 (Tons/Year)
Volatile Organic Compounds (VOC)	81.2000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Combined Cycle Combustion Turbines

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural Gas

Throughput: 3474.00 mmBtu/hr

Process Notes: Throughput of ultra-low sulfur diesel (ULSD) is 3798 mmBtu/hr. Combined cycle combustion turbines w/ heat recovery steam generator (HRSG). Turbine inlets will have inlet evaporative cooling systems to cool inlet air during warm weather to increase power output.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMV @ 15% O2 3-UNIT OPERATING HOURS

Emission Limit 2: 5.0000 PPMV @ 15% O2 3-UNIT OPERATING HOURS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: LAER

Other Applicable Requirements:

Control Method: (A) Selective catalytic reduction (SCR) and low-NOx combustion technology (dry low-NOx combustion technology for natural gas; water injection for ULSD)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is for natural gas. Emission Limit 2 is for ULSD. Emission Limits 1 & 2 are effective beginning 36 months after commissioning. Limits 1 & 2 are not applicable during startup, shutdown, tuning and commissioning. Permit limits are as follows, applicable on a per-turbine basis, 3-hr average. For natural gas: Without duct burner: 25.2 lb/hr With duct burner: 32.0 lb/hr Other periods (incl. startup/shutdown): 228 lb/hr Extended startup: 228 lb/hr Tuning: 228 lb/hr For ULSD: Normal Operation: 83.6 lb/hr Extended startup: 277 lb/hr Tuning: 277 lb/hr See also Condition 2.1.6(a)(iv) of the issued permit for operation during transition.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.0000 PPMV @ 15 % O2 3 OPERATING-HOUR, ROLLED HOURLY, AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is not applicable during periods of startup, shutdown, tuning and commissioning. Permit limits are as follows, applicable on a per-turbine basis: For natural gas: Without duct burner: 15.4 lb/hr With duct burner: 19.0 lb/hr For ULSD: 17.0 lb/hr For periods of startup, shutdown and commissioning: Extended startups using natural gas: 1522 lb/hr Commissioning and other than extended startups using natural gas: 204 lb/hr ULSD: 231 lb/hr For periods of tuning: Natural Gas: 204 lb/hr ULSD: 231 lb/hr Averaging period for the above permit limits is 3-hour average. Also see Condition 2.1.6(a)(iv) of the issued permit for operation during transitions.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0037 LB/MMBTU 3-HOUR BLOCK AVERAGE

Emission Limit 2: 0.0167 LB/MMBTU 3-HOUR BLOCK AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is for natural gas. Emission limit 2 is for ULSD. Permit limits are as follows. Averaging time for all permit limits are 3-hour block average. For natural gas: Without duct burner: 8.6 lb/hr With duct burner: 14.4 lb/hr For ULSD: 34.3 lb/hr

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0069 LB/MMBTU 3-HOUR BLOCK AVERAGE

Emission Limit 2: 0.0320 LB/MMBTU 3-HOUR BLOCK AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practice

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is for natural gas. Emission Limit 2 is for ULSD. Emission Limits 1 and 2 and permit limits address PM10 and PM2.5 together as PM10/PM2.5. Permit limits are as follows. For natural gas: With duct burner: 18.9 lb/hr Without duct burner: 11.5 lb/hr For ULSD: 65.1 lb/hr

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) No controls feasible for use of natural gas. For ULSD, use ultra-low sulfur diesel as a backup fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are as follows. Permit limits are applicable on a 3-hour block average For natural gas, with duct burner: 2.8 lb/hr For natural gas, without duct burner: 2.3 lb/hr. For ULSD: 4.0 lb/hr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Equipment design and proper operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limit: 4,026,300 ton/yr, 12-month rolling average. See also Condition 2.1.2(h) of the issued permit.

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural Gas
Throughput: 96.00 mmBtu/hr

Process Notes: The auxiliary boiler is used on an intermittent basis (up to 4,000 hr/yr) to produce intermediate pressure steam for heating the heat recovery steam generators (HRSG) and combustion turbines.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0110 LB/MMBTU 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER

Other Applicable Requirements:

Control Method: (A) Ultra-low NOx burners and flue gas recirculation, air preheater, automated combustion management system with O2 trim system and automated water blowdown, and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Permit limits are 1.1 lb/hr and 2.2 ton/yr

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0370 LB/MMBTU 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are 3.6 lb/hr and 7.2 ton/yr

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: In the issued permit, PM, Total (TPM), addresses PM, PM10 and PM2.5. Permit limits are 0.72 lb/hr and 1.44 ton/yr

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limit is 0.20 ton/yr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 22500.0000 TON/YR 12-MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Fuel Heater
Process Type: 19.600 (Misc. Boilers, Furnaces, Heaters)
Primary Fuel: Natural Gas
Throughput: 12.80 mmBtu/hr
Process Notes: The fuel heater indirectly heats the natural gas fuel for the combustion turbines. Natural gas for the combustion turbines must be heated to counteract the cooling that occurs when the pressure of the gas is reduced.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0110 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (A) Low-NOx burners
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are 0.45 lb/hr and 2.0 ton/yr

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0800 LB/HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are 1.02 lb/hr and 4.5 ton/yr

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: The issued permit addresses TPM as PM, PM10 and PM2.5.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0140 LB/HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 6600.0000 TON/YR 12-MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency Engines
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Ultra-low sulfur diesel
Throughput: 0
Process Notes: Two emergency engine-generators. One large emergency engine-generator, 1500 kW output, will provide emergency power to the plant. One small emergency engine-generator, 125 kW output, will provide emergency power to the switchyard. Fuel used in the emergency engines must meet the requirements of 40 CFR 80.510(b), pursuant to 40 CFR 60.4207(b).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS

Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are LAER for NOx. For the large engine: 6.4 g/kW-hr For the small engine: 4.0 g/kW-hr Permit limits are as follows: For the large engine: 23.0 lb/hr and 1.7 ton/yr For the small engine: 1.2 lb/hr and 0.09 ton/yr

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for CO. For the large engine: 3.5 g/kW-hr For the small engine: 5.0 g/kW-hr Permit limits are as follows: For the large engine: 12.5 lb/hr and 0.9 ton/yr For the small engine 1.5 lb/hr and 0.11 ton/yr

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: In the issued permit, TPM addresses PM, PM10 and PM2.5 Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for PM. For the large engine: 0.20 g/kW-hr For the small engine: 0.30 g/kW-hr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limit: 241 tons/year (includes firewater engine)

Process/Pollutant Information

PROCESS NAME: Firewater Pump Engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Ultra-low sulfur diesel

Throughput: 0

Process Notes: A 422 horsepower engine will power the pump in the firewater system. Fuel must meet the requirements of 40 CFR 80.510(b), pursuant to 40 CFR 60.4207(b).

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are LAER for NOx. For NOx: 4.0 g/kW-hr

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for CO. For CO; 3.5 g/kW-hr

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: In the issued permit, TPM addresses PM, PM10 and PM2.5 Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for PM. For PM: 0.20 g/kW-hr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limit: 241 ton/year. (includes emergency engines)

Process/Pollutant Information

PROCESS NAME: Natural Gas Piping and Components
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel:
Throughput: 0
Process Notes: GHG and methane may leak from components, such as valves and flanges

POLLUTANT NAME: Methane
CAS Number: 74-82-8
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)
Emission Limit 1:
Emission Limit 2: 32.0000 TON/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Leak Detection and Repair (LDAR) program; "leakless" components
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Compliance is demonstrated using methods in 40 CFR 60 Subpart VVa, i.e., a leak is a methane concentration of 2000 ppm or greater.

Process/Pollutant Information

PROCESS NAME: Circuit Breakers

Process Type: 99.999 (Other Miscellaneous Sources)

Primary Fuel:

Throughput: 0

Process Notes: Electrical switchgear includes circuit breakers that use gaseous sulfur hexafluoride (SF6) as a dielectric insulating material. Emissions may result from leaks.

POLLUTANT NAME: Sulfur Hexafluoride

CAS Number: 2551-62-4
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 0.5000 % LEAK RATE CALENDAR YEAR AVERAGE
Emission Limit 2: 14.6000 LB/YR 12-MONTH ROLLING AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Compliance with emission limits demonstrated using procedures in 40 CFR 98 Subpart DD.

Process/Pollutant Information

PROCESS NAME: Roadways

Process Type: 99.140 (Paved Roads)

Primary Fuel:

Throughput: 0

Process Notes: Roadways that serve trucks delivering bulk materials, e.g., ULSD or deionized water, for the combustion turbines or selective catalytic regenerator reagent.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number:	PM
Test Method:	Unspecified
Pollutant Group(s):	(Particulate Matter (PM))
Emission Limit 1:	10.0000 % OPACITY
Emission Limit 2:	
Standard Emission:	

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(P) Paving is required for roads used by trucks transporting bulk materials.
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	TPM addresses PM, PM10 and PM2.5

Facility Information

RBLC ID:	MI-0435 (final)	**Date Determination**	
		Last Updated:	02/19/2019
Corporate/Company Name:	DTE ELECTRIC COMPANY	**Permit Number:**	19-18
Facility Name:	BELLE RIVER COMBINED CYCLE POWER PLANT	**Permit Date:**	07/16/2018 (actual)
Facility Contact:	MATTHEW PAUL 313-235-3374 MATTHEW.PAUL@DTEENERGY.COM	**FRS Number:**	Not Found
Facility Description:	Natural gas combined-cycle power plant	**SIC Code:**	4911
Permit Type:	B: Add new process to existing facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	ST. CLAIR		
Facility State:	MI		
Facility ZIP Code:	48054		
Permit Issued By:	MICHIGAN DEPT OF ENVIRONMENTAL QUALITY (Agency Name) MS. CINDY SMITH(Agency Contact) (517)284-6802 SMITHC17@MICHIGAN.GOV		
Other Agency Contact Info:	For technical questions regarding the permit, please contact the permit engineer, Mr. John Vial, at 517-284-6805 or at vialj@michigan.gov. Thank you.		

Permit Notes: The new combined cycle plant is proposed to be located near DTE's existing Belle River and St. Clair coal fired power plants. The three plants will be considered a single stationary source. It will have a capacity of 1,150 megawatts.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	176.0000 (Tons/Year)
Nitrogen Oxides (NOx)	268.2200 (Tons/Year)
Particulate Matter (PM)	160.0300 (Tons/Year)
Sulfur Oxides (SOx)	39.4200 (Tons/Year)
Volatile Organic Compounds (VOC)	90.5200 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: FGCTGHRSG (EUCTGHRSG1 & EUCTGHRSG2)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 0

Process Notes: Two (2) combined-cycle natural gas-fired combustion turbine generators, each with a heat recovery steam generator (CTGHRSG). Plant nominal 1,150 MW electricity production. Turbines are each rated at 3,658 MMBTU/H and HRSG duct burners are each rated at 800 MMBTU/H. The HRSGs are not capable of operating independently from the CTGs.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0045 LB/MMBTU EACH UNIT; 24-H ROLL AVG; NOT S.S.

Emission Limit 2: 17.5900 LB/H EACH UNIT; 24-H ROLL AVG; NOT S.S.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 3 CO emission limits in the permit; as follows: Emission limit 1 = 0.0045 LB/MMBTU based on a 24-hour rolling average as determined each operating hour, except during startup and shutdown (S.S.). The limit applies to each unit. Emission limit 2 = 17.59 LB/H based on a 24-hour rolling average as determined each operating hour except during startup and shutdown (S.S.). The limit applies to each unit. Emission limit 3 = 791.5 LB/H each operating hour during startup or shutdown. Oxidation catalyst reduction is expected to reduce CO by 85-90%. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMVD AT 15%O2; 24-H ROLL AVG; EACH UNIT;

Emission Limit 2: 28.9000 LB/H 24-H ROLL AVG; EACH UNIT; NOT S.S.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) SCR with DLNB (Selective catalytic reduction with dry low NOx burners).

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 4 NOx emission limits in the permit, described below: Emission limit 1 = 2 ppmvd at 15% O2 based on a 24-hour rolling average as determined each operating hour, except during startup and shutdown (S.S.). The limit applies to each unit. Emission limit 2 = 28.90 LB/H based on a 24-hour rolling average as determined each operating hour, except during startup and shutdown (S.S.). The limit applies to each unit. Emission limit 3 = 15 ppmvd at 15% O2 based on a 30-day rolling average as determined each operating day. The limit applies to each unit and is from NSPS KKKK. Emission limit 4 = 262.4 LB/H each operating hour during startup or shutdown (S.S.). The limit applies to each unit. The estimated efficiency of SCR with DLNB is a range of 80-90%. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in

the plan required in Special Condition III.2 in the permit.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 16.0000 LB/H HOURLY; EACH UNIT

Emission Limit 2: 12.2000 LB/H HOURLY; EACH UNIT W/O DUCT BURNER FIRING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost analysis was for the best scenario: 100 percent capture of PM2.5, where PM and PM10 calculations equaled PM2.5. Pulse Jet Fabric Filter Baghouse: minimum of $174,206 per ton Mechanical Shaker Fabric Filter Baghouse: minimum of $145,172 per ton Reverse-Air Fabric Filter Baghouse: minimum of $232,274 per ton Dry ESP (Wire-Plate Type): minimum of $116,721 per ton Dry ESP (Wire-Pipe Type): minimum of $261,309 per ton Wet ESP (Wire-Plate Type): minimum of $263,153 per ton Wet ESP (Wire-Pipe Type): minimum of $348,412 per ton Venturi Scrubber: minimum of $167,000 per ton

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 16.0000 LB/H HOURLY; EACH UNIT

Emission Limit 2: 12.2000 LB/H HOURLY; EACH UNIT W/O DUCT BURNER FIRING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost analysis was for the best scenario: 100 percent capture of PM2.5, where PM and PM10 calculations equaled PM2.5. Pulse Jet Fabric Filter Baghouse: minimum of $174,206 per ton Mechanical Shaker Fabric Filter Baghouse: minimum of $145,172 per ton Reverse-Air Fabric Filter Baghouse: minimum of $232,274 per ton Dry ESP (Wire-Plate Type): minimum of $116,721 per ton Dry ESP (Wire-Pipe Type): minimum of $261,309 per ton Wet ESP (Wire-Plate Type): minimum of $263,153 per ton Wet ESP (Wire-Pipe Type): minimum of $348,412 per ton Venturi Scrubber: minimum of $167,000 per ton

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 16.0000 LB/H HOURLY; EACH UNIT

Emission Limit 2: 12.2000 LB/H HOURLY; EACH UNIT W/O DUCT BURNER FIRING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost analysis was for the best scenario: 100 percent capture of PM2.5, where PM and PM10 calculations equaled PM2.5. Pulse Jet Fabric Filter Baghouse: minimum of $174,206 per ton Mechanical Shaker Fabric Filter Baghouse: minimum of $145,172 per ton Reverse-Air Fabric Filter Baghouse: minimum of $232,274 per ton Dry ESP (Wire-Plate Type): minimum of $116,721 per ton Dry ESP (Wire-Pipe Type): minimum of $261,309 per ton Wet ESP (Wire-Plate Type): minimum of $263,153 per ton Wet ESP (Wire-Pipe Type): minimum of $348,412 per ton Venturi Scrubber: minimum of $167,000 per ton

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0026 LB/MMBTU EACH UNIT; HOURLY EXCEPT S.S.
Emission Limit 2: 0.0013 LB/MMBTU EACH UNIT W/O DUCT BURNER FIRING; NOT SS
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Oxidation catalyst technology and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limits above are described further below: Emission limit 1 applies to each unit and is 0.0026 LB/MMBTU, hourly except during startup and shutdown. Emission limit 2 applies to each unit without duct burner firing and is 0.0013 LB/MMBTU, hourly except during startup and shutdown.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0013 LB/MMBTU HOURLY; EACH UNIT
Emission Limit 2: 5.0400 LB/H HOURLY; EACH UNIT W/O DUCT BURNER FIRING
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The estimated cost of controlling H2SO4 using FGD is over $100,000 per ton.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e

Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 2042773.0000 T/YR 12-MO ROLLING TIME PERIOD; EACH UNIT
Emission Limit 2: 794.0000 LB/MW-H 12-OPER MO ROLL AVG; EACH UNIT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Energy efficiency measures
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The estimated cost of CCS is over $70,000,000 per year. This does not take into account the large parasitic load caused by a CCS system. For emission limit 2 above (794 LB/MW-H), compliance is determined monthly at the end of the initial and each subsequent 12-operating month period. The first month of the initial compliance period is defined in 40 CFR 60.5525(c)(1)(i).

Process/Pollutant Information

PROCESS NAME: FGCTGHRSG (EUCTGHRSG1 & EUCTGHRSG2)--Startup & Shutdown
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: Natural gas
Throughput: 0
Process Notes: This section is the startup and shutdown emission limits for FGCTGHRSG. Two 3,658 MMBTU/H natural gas-fired combustion turbine generators (CTGs) coupled with heat recovery steam generators (HRSGs). The HRSGs are equipped with natural gas-fired duct burners rated at 800 MMBTU/H to provide heat for additional steam production. The HRSGs are not capable of operating independently from the CTGs.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 791.5000 LB/H EACH UNIT; OPERATING HOUR DURING S.S.
Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit is 791.5 LB/H, per operating hour during startup or shutdown. The limit applies to each unit. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 262.4000 LB/H EACH UNIT; OPERATING HOUR DURING S.S.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (A) SCR with DLNB (Selective catalytic reduction with dry low NOx burners).

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit above is 262.4 LB/H for each unit and is per operating hour during startup or shutdown. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the

combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit.

Process/Pollutant Information

PROCESS NAME: EUAUXBOILER: Auxiliary Boiler

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 99.90 MMBTU/H

Process Notes: A natural gas-fired auxiliary boiler, rated at 99.9 MMBTU/H to facilitate startup of the CTG/HRSG trains and to provide steam to the steam turbine generator seals. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0750 LB/MMBTU HOURLY
Emission Limit 2: 7.4900 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0360 LB/MMBTU HOURLY
Emission Limit 2: 3.6000 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low NOx burners/Flue gas recirculation.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The cost of selective catalytic reduction (SCR) is over $100,000 for the project.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0070 LB/MMBTU HOURLY
Emission Limit 2: 0.7000 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices, low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0070 LB/MMBTU HOURLY
Emission Limit 2: 0.7000 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices, low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0070 LB/MMBTU HOURLY
Emission Limit 2: 0.7000 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices, low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0080 LB/MMBTU HOURLY
Emission Limit 2: 0.8000 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.3400 GR S/100 SCF FUEL SUPPLIER RECORDS
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices, low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 25623.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Energy efficiency measures, use of natural gas.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUEMENGINE: Emergency engine
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 2.00 MW
Process Notes: A nominal 2 MW diesel-fueled emergency engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 6.4000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit is actually in "NMHC+NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.1800 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.1800 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.8900 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER RECORDS OR TEST DATA
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices, low sulfur fuel.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight. Fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 161.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Energy efficient design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUFPENGINE: Fire pump engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 399.00 BHP
Process Notes: A 399 brake HP diesel-fueled emergency fire pump engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 4.0000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit is actually in "NMHC+ NOx" (nonmethane hydrocarbon plus NOx) which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.1300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER RECORDS OR TEST DATA
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices, low sulfur fuel.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight, using fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 86.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Energy efficient design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUFUELHTR1: Natural gas fired fuel heater

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 20.80 MMBTU/H

Process Notes: A natural gas-fired 20.8 MMBTU/H heat input HP fuel heater.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.7700 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion controls.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.7500 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Low NOx burner

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 μ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.1700 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion controls

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.3400 GR S/100 SCF FUEL SUPPLIER RECORDS
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 6310.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Natural gas fuel

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limit above is the Total for EUFUELHTR1 & EUFUELHTR2.

Process/Pollutant Information

PROCESS NAME: EUFUELHTR2: Natural gas fired fuel heater
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural gas
Throughput: 3.80 MMBTU/H
Process Notes: A natural gas-fired 3.8 MMBTU/H heat input HP fuel heater.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.1400 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.1400 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low NOx burner
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion controls.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.3400 GR S/100 SCF FUEL SUPPLIER RECORDS
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 6310.0000 T/YR 12-MONTH ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Natural gas fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUCOOLINGTWR: Cooling Tower
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel:
Throughput: 0
Process Notes: A 14 cell wet mechanical draft cooling tower equipped with drift eliminators.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 4.0300 LB/H HOURLY
Emission Limit 2: 0.0005 % VENDOR CERTIF. MAX DRIFT RATE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) High efficiency drift/mist eliminators
Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a 3rd emission limit in the permit-- Emission Limit 3 = Total Dissolved Solids (TDS) in circulating water = 3000 ppmw, monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency of the controls is to reduce drift loss to 0.0005%.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4800 LB/H HOURLY

Emission Limit 2: 0.0005 % VENDOR CERTIF. MAX DRIFT RATE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) High efficiency drift/mist eliminators

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a 3rd emission limit in the permit as follows: Emission Limit 3 is Maximum Total Dissolved Solids (TDS) in circulating water = 3000 ppmw, monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency of the controls is to reduce drift loss to 0.0005%.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4800 LB/H HOURLY

Emission Limit 2: 0.0005 % VENDOR CERTIF MAX DRIFT RATE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:	
Control Method:	(A) High efficiency drift/mist eliminators
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	No
Pollutant/Compliance Notes:	There is a 3rd emission limit as follows: Emission Limit 3 is Maximum Total Dissolved Solids (TDS) in circulating water = 3000 ppmw, monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency of the controls is to reduce drift loss to 0.0005%.

Facility Information

RBLC ID:	MI-0433 (final)	**Date Determination**	
		Last Updated:	02/19/2019
Corporate/Company Name:	MARSHALL ENERGY CENTER LLC	**Permit Number:**	167-17 AND 168-17
Facility Name:	MEC NORTH, LLC AND MEC SOUTH LLC	**Permit Date:**	06/29/2018 (actual)
Facility Contact:	WILLARD LADD 914-468-2402 WLADD@DEVELOPMENTPARTNERS.COM	**FRS Number:**	Not Found
Facility Description:	Natural gas combined cycle power plant (two plants: north and south)	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	CALHOUN		
Facility State:	MI		
Facility ZIP Code:	49068		
Permit Issued By:	MICHIGAN DEPT OF ENVIRONMENTAL QUALITY (Agency Name) MS. CINDY SMITH(Agency Contact) (517)284-6802 SMITHC17@MICHIGAN.GOV		
Other Agency Contact Info:	There are two plants (MEC North, LLC and MEC South, LLC) that will operate as separate entities but they are considered a single stationary source and the installation of the two new plants was reviewed as a single project. There are two Air Permits to Install for the two plants (167-17 and 168-17). For technical questions regarding either of the two permits, please contact the permit engineer Ms. Catherine Asselin at 517-284-6786 or at asselinc@michigan.gov. Thank you.		
Permit Notes:	There are two plants that will operate as separate entities and each received a separate Air Permit to Install, but they are considered one stationary source and were reviewed as one project.		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	310.5200 (Tons/Year)
Nitrogen Oxides (NOx)	578.8100 (Tons/Year)
Particulate Matter (PM)	61.2300 (Tons/Year)

Sulfur Oxides (SOx)	56.6100 (Tons/Year)
Volatile Organic Compounds (VOC)	189.2200 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: EUCTGHRSG (North Plant): A combined-cycle natural gas-fired combustion turbine generator with heat recovery steam generator.

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 500.00 MW

Process Notes: Nominal 500 MW electricity production. Turbine rating of 3,080 MMBTU/hr (HHV) and HRSG duct burner rating of 755 MMBTU/hr (HHV). A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/hr (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/hr (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR, and an oxidation catalyst.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 4.0000 PPMVD AT 15%O2; 24-H ROLL AVG; NOT INCL ST/SH

Emission Limit 2: 788.6000 LB/H OPERATING HR DURING STARTUP OR SHUTDOWN

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are two emission limits: Emission limit 1 = 4 ppmvd at 15%O2 based on a 24-hr rolling average as determined each operating hour, except during startup or shutdown. Emission limit 2 = 788.6 lb/h each operating hour during startup or shutdown. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from teh lowering of teh turbine output below the demonstrated steady state level, with teh intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2. Startup and shutdown hours are limits to 300 hours per 12-month rolling time period.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMVD AT 15%O2; 24-H ROLL AVG; NOT S.S.

Emission Limit 2: 29.7000 LB/H 24-H ROLL AVG; NOT STARTUP/SHUTDOWN (SS)

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) SCR with DLNB (Selective catalytic reduction with Dry Low NOx burners).

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 4 NOx emission limits for EUCTGHRSG as follows: Emission limit 1 = 2 ppmvd at 15%O2 based on a 24-hour rolling average as determined each operating hour except during startup and shutdown. Emission Limit 2 = 29.7 lb/h based on a 24-hour rolling average as determined each operating hour except during startup and shutdown. Emission Limit 3 = 15 ppmvd at 15%O2 based on a 30-day rolling average as determined each operating day. This limit is from NSPS KKKK. Emission limit 4 = 126.5 lb/h each operating hour during startup or shutdown. Estimated efficiency of SCR with DLNB is a range of 80-90% Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level shall be described in the plan required by Special Condition III.2. Startup and shutdown hours are limited to 300 hours per 12-month rolling time period.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.8000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: (5.8 lb/hr is equivalent to 0.002 lb/MMBTU which is about 30 percent of PM10 and PM2.5) The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10 which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulse jet fabric filter baghouse: average of $334,000 per ton. Mechanical shaker fabric filter baghouse: average of $370,500 per ton Reverse-Air fabric filter baghouse: average of $437,000 per ton Dry ESP (Wire-plate type): average of $438,500 per ton Dry ESP (Wire-pipe type): average of $278,500 per ton Wet ESP (Wire-plate type): average of $528,500 per ton Wet ESP (Wire-pipe type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.1000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: (19.1 lb/h is equivalent to 0.005 lb/MMBTU which includes startup and shutdown). The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10 which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulset jet fabric filter baghouse: average of $334,000 per ton. Mechanical shaker fabric filter baghouse: average of $370,500 per ton. Reverse-air fabric filter baghouse: average of $437,000 per ton. Dry ESP (Wire-plate type): average of $438,500 per ton Dry ESP (Wire-pipe type): average of $278,500 per ton Wet ESP (Wire-plate type): average of $528,500 per ton Wet ESP (Wire-pipe type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.1000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: (19.1 pph is equivalent to 0.005 lb/MMBTU, which includes startup and shutdown). The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulse Jet Fabric Filter Baghouse: average of $334,000 per ton Mechanical Shaker Fabric Filter Baghouse: average of $370,500 per ton Reverse-Air Fabric Filter Baghouse: average of $437,000 per ton Dry ESP (Wire-Plate Type): average of $438,500 per ton Dry ESP (Wire-Pipe Type): average of $278,500 per ton Wet ESP (Wire-Plate Type): average of $528,500 per ton Wet ESP (Wire-Pipe Type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.0000 PPMVD AT 15%O2; HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Emission limit 1 above does not include startup and shutdown. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2. Startup and Shutdown hours are limited to 300 hours per 12 month rolling time period.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 6.6000 LB/H HOURLY

Emission Limit 2: 0.6000 GR S/100 SCF FUEL SUPPLIER RECORDS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a 3rd emission limit which is 0.060 lb/MMBTU based on the NSPS. There is also a NSPS natural gas material limit of 20 grains of sulfur per 100 scf. Even though MEC determined FGD to be technically infeasible due to the low SO2 content in the flue gas, they also provided an economic analysis. The use of pipeline quality natural gas and good combustion practices were used for the emission calculations. All reductions in emissions were with these potential control options already incorporated as baseline conditions. They concluded that with costs of over $200,000 per ton of controlled SO2 and H2SO4 combined, FGD also would not be economically feasible.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 2.7000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: H2SO4 was calculated from manufacturer's data, assuming 100% conversion of SO3 to H2SO4. Even though MEC determined FGD and wet ESPs to be technically infeasible due to the low H2SO4 content in the flue gas, they also provided economic analyses. The use of pipeline quality natural gas and good combustion practices were used for the emission calculations. All reductions in emissions were with these potential control options already incorporated as baseline conditions. They concluded that with costs of over $200,000 per ton of controlled SO2 and H2SO4 combined, FGD would not be economically feasible, and with costs of over $400,000 per ton of controlled particulate H2SO4 removed, wet ESPs would also not be economically feasible.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1978297.0000 T/YR 12-MO ROLL TIME PERIOD

Emission Limit 2: 806.0000 LB/MWH 12- OPERATING MONTH ROLL AVG

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Emission limit 2 is 806 LB/MWH based on 12-operating month rolling average basis as determined at the end of each operating calendar month. Compliance is determined monthly at the end of the initial and each subsequent 12-operating month period. The first month of the initial compliance period is defined in 40 CFR 60.5525(c)(1)(i). The amine-based CCS technologies were used since these are generally considered to be the most feasible near-term deployable technology for possible future CO2 removal. CCS is assumed to be about 90 percent effective. Using the lowest capital cost range, the estimated capital cost for CCS for the proposed project is approximately $393 million, including the cost of a pipeline to transport the CO2 and the cost of the CO2 control system. The cost per ton was close to $100/ton, which was not considered economically feasible.

Process/Pollutant Information

PROCESS NAME: EUAUXBOILER (North Plant): Auxiliary Boilder

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 61.50 MMBTU/H

Process Notes: A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0800 LB/MMBTU HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The cost of an oxidation catalyst is between $6,000 to $31,000 per ton (average of $18,500) for CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0400 LB/MMBTU 30-DAY ROLLING AVG TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Low NOx burners/flue gas recirculation and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Selective catalytic reduction (SCR) was calculated to be over $18,000/ton for NOx.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 LB/MMBTU HOURLY
Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4600 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: At greater than $80,000 per year annual cost for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a venturi scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4600 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: At greater than $80,000 per year annual cost for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a venturi scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0040 LB/MMBTU HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost of an oxidation catalyst is between $6,000 to $31,000/ton (average $18,500) for CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 1.8000 LB/MMSCF MONTHLY
Emission Limit 2: 0.6000 GR S/100 SCF FUEL SUPPLIER RECORDS
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The natural gas material limit of 2,000 grains of sulfur per MMSCF is what the emission factor is based upon.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 31540.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUEMENGINE (North Plant): Emergency Engine

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel

Throughput: 1341.00 HP

Process Notes: A 1,341 HP (1,000 kilowatts (KW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 3.5000 G/KW-H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 6.4000 G/KW-H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit is actually in "NMHC+NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5400 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5200 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.8600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER CERTIF. RECORDS
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limit above is the diesel material limit of 15 ppm of sulfur (0.0015 percent) by weight. Fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil is compliance method.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 383.0000 T/YR 12-MO. ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUFPENGINE (North Plant): Fire pump engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 300.00 HP
Process Notes: A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6000 G/BHP-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 3.0000 G/BHP-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit is actually in "NMHC+NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/BHP-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.7500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER RECORDS
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 85.6000 T/YR 12-MONTH ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUCOOLTOWER (North Plant): Cooling Tower
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel:
Throughput: 170000.00 GAL/M
Process Notes: An eight-cell wet mechanical draft cooling tower and a nominal rated circulation rate of 170,000 gallons per minute (GAL/M). Particulate in water droplets will be controlled with high efficiency drift/mist eliminators.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 5.5900 T/YR 12-MONTH ROLLING TIME PERIOD
Emission Limit 2: 0.0005 % VENDOR CERTIFIED MAX DRIFT RATE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) High efficiency drift/mist eliminators

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a third emission limit in the permit: Maximum total dissolved solids (TDS) in circulating water = 3000 PPMW; monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency is to reduce drift loss to 0.0005%.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 2.8500 T/YR 12-MONTH ROLLING TIME PERIOD

Emission Limit 2: 0.0005 % VENDOR-CERTIFIED MAX DRIFT RATE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) High efficiency drift/mist eliminators

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a third emission limit in the permit which is the Maximum Total Dissolved Solids (TDS) in circulating water = 3000 PPMW; monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency is to reduce drift loss to 0.0005%.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 2.8500 T/YR 12-MONTH ROLLING TIME PERIOD

Emission Limit 2: 0.0005 % VENDOR CERTIIFIED MAX DRIFT RATE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) High efficiency drift/mist eliminators

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a third emission limit which is Maximum Total Dissolved Solids (TDS) in circulating water = 3000 PPMW; monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency is to reduce drift loss to 0.0005%.

Process/Pollutant Information

PROCESS NAME: EUCTGHRSG (South Plant): A combined cycle natural gas-fired combustion turbine generator with heat recovery steam generator.

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 500.00 MW

Process Notes: A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/H (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/H (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR and an oxidation catalyst.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 4.0000 PPMV AT 15%O2; 240HR ROLL AVG; NOT S.S.

Emission Limit 2: 788.6000 LB/H OPERATING HR DURING STARTUP OR SHUTDOWN

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The first emission limit above is 4 PPMVD at 15%O2 based on a 24-hour rolling average as determined each operating hour EXCEPT during startup and shutdown. Emission limit 2 above is 788.6 LB/H during each operating hour during startup or shutdown (S.S.). Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit. Startup and Shutdown hours are limited to 300 hours per 12 month rolling time period.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMV AT 15%O2; 24-HR ROLL AVG NOT S.S.

Emission Limit 2: 29.7000 LB/H 24-H ROLL AVG NOT S.S.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) SCR with DLNB (Selective catalytic reduction with dry low NOx burners).

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The estimated efficiency of SCR with DLNB is a range of 80-90%. There are 4 NOx emission limits in the permit, as follows: Emission Limit 1 = 2 ppmvd at 15%O2 based on a 24-hour rolling average as determined each operating hour except during startup and shutdown (S.S.). Emission limit 2 - 15 ppmvd at 15%O2 based on a 30-day rolling average as determined each operating day (not including startup and shutdown) per NSPS KKKK. Emission limit 3 = 29.7 LB/H based on a 24-hour rolling average as determined each operating hour except during startup and shutdown. Emission limit 4 = 126.5 LB/H based on each operating hour during startup or shutdown. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design

capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit. Startup and Shutdown hours are limited to 300 hours per 12 month rolling time period.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.8000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 5.8 pph is equivalent to 0.002 lb/MMBTU, which is about 30 percent of PM10 and PM2.5. The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulse Jet Fabric Filter Baghouse: average of $334,000 per ton Mechanical Shaker Fabric Filter Baghouse: average of $370,500 per ton Reverse-Air Fabric Filter Baghouse: average of $437,000 per ton Dry ESP (Wire-Plate Type): average of $438,500 per ton Dry ESP (Wire-Pipe Type): average of $278,500 per ton Wet ESP (Wire-Plate Type): average of $528,500 per ton Wet ESP (Wire-Pipe Type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.1000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 19.1 pph is equivalent to 0.005 lb/MMBTU, which includes startup and shutdown The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulse Jet Fabric Filter Baghouse: average of $334,000 per ton Mechanical Shaker Fabric Filter Baghouse: average of $370,500 per ton Reverse-Air Fabric Filter Baghouse: average of $437,000 per ton Dry ESP (Wire-Plate Type): average of $438,500 per ton Dry ESP (Wire-Pipe Type): average of $278,500 per ton Wet ESP (Wire-Plate Type): average of $528,500 per ton Wet ESP (Wire-Pipe Type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.1000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 19.1 pph is equivalent to 0.005 lb/MMBTU, which includes startup and shutdown The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulse Jet Fabric Filter Baghouse: average of $334,000 per ton Mechanical Shaker Fabric Filter Baghouse: average of $370,500 per ton Reverse-Air Fabric Filter Baghouse: average of $437,000 per ton Dry ESP (Wire-Plate Type): average of $438,500 per ton Dry ESP (Wire-Pipe Type): average of $278,500 per ton Wet ESP (Wire-Plate Type): average of $528,500 per ton Wet ESP

(Wire-Pipe Type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.0000 PPMVD AT 15%O2; NOT INCL. STARTUP/SHUTDOWN

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit. Startup and Shutdown hours are limited to 300 hours per 12 month rolling time period.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 6.6000 LB/H HOURLY

Emission Limit 2: 0.6000 GR S/100 SCF FUEL SUPPLIER RECORDS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 3 emission limits and one material limit in the permit as follows: Emission Limit 1 = 6.6 LB/H Emission Limit 2 = 0.6 GR Sulfur/100 scf Emission Limit 3 = 0.060 LB/MMBTU from the NSPS Emission Limit 4 is a NSPS natural gas material limit of 20 grains of sulfur per 100 scf. Even though MEC determined FGD to be technically infeasible due to the low SO2 content in the flue gas, they also provided an economic analysis. The use of pipeline quality natural gas and good combustion practices were used for the emission calculations. All reductions in emissions were with these potential control options already incorporated as baseline conditions. They concluded that with costs of over $200,000 per ton of controlled SO2 and H2SO4 combined, FGD also would not be economically feasible.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 2.7000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: H2SO4 was calculated from manufacturer's data, assuming 100% conversion of SO3 to H2SO4. Even though MEC determined FGD and wet ESPs to be technically infeasible due to the low H2SO4 content in the flue gas, they also provided economic analyses. The use of pipeline quality natural gas and good combustion practices were used for the emission calculations. All reductions in emissions were with these potential control options already incorporated as baseline conditions. They concluded that with costs of over $200,000 per ton of controlled SO2 and H2SO4 combined, FGD would not be economically feasible, and with costs of over $400,000 per ton of controlled particulate H2SO4 removed, wet ESPs would also not be economically feasible.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1978297.0000 T/YR 12-MO ROLLING TIME PERIOD

Emission Limit 2: 806.0000 LB/MW-H 12-OPERATING MONTH ROLL AVG BASIS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: For emission limit 2 (806 LB/MW-H) it is based on a 12-operating month rolling average basis as determined at the end of each operating calendar month (basis is BACT & NSPS TTTT). Compliance is determined monthly at the end of the initial and each subsequent 12-operating month period. The first month of the initial compliance period is defined in 40 CFR 60.5525(c)(1)(i). The amine-based CCS technologies were used since these are generally considered to be the most feasible near-term deployable technology for possible future CO2 removal. CCS is assumed to be about 90 percent effective. Using the lowest capital cost range, the estimated capital cost for CCS for the proposed project is approximately $393 million, including the cost of a pipeline to transport the CO2 and the cost of the CO2 control system. The cost per ton was close to $100/ton, which was not considered economically feasible.

Process/Pollutant Information

PROCESS NAME: EUAUXBOILER (South Plant): Auxiliary Boiler

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 61.50 MMBTU/h

Process Notes: A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0800 LB/MMBTU HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The cost of an oxidation catalyst is between $6,000 to $31,000/ton (average of $18,500) for CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0400 LB/MMBTU 30 DAY ROLLING AVG TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Low NOx burners/flue gas recirculation and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Selective catalytic reduction (SCR) was calculated to be over $18,000/ton for NOx.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4600 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: At greater than $80,000 per year annual cost for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a venturi scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4600 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: At greater than $80,000 per year annual cost for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a venturi scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0040 LB/MMBTU HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost of an oxidation catalyst is between $6,000 to $31,000/ton (average of $18,500) for CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 1.8000 LB/MMSCF MONTHLY

Emission Limit 2: 0.6000 GR S/100 SCF FUEL SUPPLIER RECORDS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The natural gas material limit of 2,000 grains of sulfur per MMscf is what the emission factor is based upon.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 31540.0000 T/YR 12-MO ROLLING TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUEMENGINE (South Plant): Emergency Engine
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 1341.00 HP
Process Notes: A 1,341 HP (1,000 kilowatts (kW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 6.4000 G/KW-H HOURLY
Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and meeting NSPS IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The limit is actually in "NMHC+NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 G/KW-H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.5400 LB/H HOURLY

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5200 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.8600 LB/H HOURLY

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER RECORDS OR SMPLE TEST DATA
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight. Fuel supplier certification records or fuel sample test data, for each deliver of diesel fuel oil.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 383.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUFPENGINE (South Plant): Fire pump engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 300.00 HP
Process Notes: A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6000 G/BPH-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 3.0000 G/BHP-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit is actually in "NMHC + NOx" (nonmethane hydrocarbon plus NOx) which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/BHP-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: EPA/OAR OTM 27 and Mthd 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.7500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER RECORDS OR FUEL SAMPL DATA
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight based on fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 85.6000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUCOOLTOWER (South Plant): Cooling Tower
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel: NA
Throughput: 170000.00 GAL/M
Process Notes: An eight-cell, wet mechanical draft cooling tower and a nominal rated circulation rate of 170,000 gallons per minute (GAL/M). Particulate in water droplets will be controlled with high efficiency drift/mist eliminators.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 5.5900 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2: 0.0005 % VENDOR-CERTIF. MAX DRIFT RATE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) High efficiency drift/mist eliminators.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: There is a third emission limit in the permit, as follows: Maximum total dissolved solids (TDS) in circulating water = 3000 ppmw, monthly as determined based upon weekly and monthly parameter monitoring.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.8500 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2: 0.0005 % VENDOR-CERTIF. MAX DRIFT RATE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) High efficiency drift/mist eliminators.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: There is a third emission limit as follows: Maximum Total Dissolved Solids (TDS) in circulating water = 3000 ppmw; monthly as determined based upon weekly and monthly parameter monitoring. Estimated efficiency of add on controls is to reduce drift loss to 0.0005%.

POLLUTANT NAME:	Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number:	PM
Test Method:	Unspecified
Pollutant Group(s):	(Particulate Matter (PM))
Emission Limit 1:	2.8500 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:	0.0005 % VENDOR-CERTIF. MAX DRIFT RATE
Standard Emission:	

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(A) High efficiency drift/mist eliminators.
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	No
Pollutant/Compliance Notes:	There is a third emission limit in the permit as follows: Maximum Total Dissolved Solids (TDS) in circulating water = 3000 ppmw; monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency of the add on controls is to reduce drift loss to 0.0005%.

Facility Information

RBLC ID:	VA-0328 (final)	**Date Determination**	
		Last Updated:	06/19/2019
Corporate/Company Name:	NOVI ENERGY	**Permit Number:**	52588
Facility Name:	C4GT, LLC	**Permit Date:**	04/26/2018 (actual)
Facility Contact:	ANAND GANGADHARAN (248) 735-6684 AGANGADH@NOVIENERGY.COM	**FRS Number:**	Not Found
Facility Description:	Natural gas-fired combined cycle power plant	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	3	**COUNTRY:**	USA
Facility County:	USA		
Facility State:	VA		

Facility ZIP Code: 23030

Permit Issued By: VIRGINIA DEPT. OF ENVIRONMENTAL QUALITY; DIVISION OF AIR QUALITY (Agency Name)
PAT CORBETT(Agency Contact) (804)698-4016 patrick.corbett@deq.virginia.gov

Other Agency Contact Info: Permit Writer, Alison Sinclair:
Email: Alison.Sinclair@deq.virginia.gov
Phone: 804-527-5155

Permit Notes: The permit was written with two options for the turbines: Option 1 - GE 7HA.02 Option 2 - Siemens SGT6-8000H Facility Wide Pollutants for Siemens: CO: 293.5 NOx: 295.8 PM: 253.8 SOx: 39.3 VOC: 113.7

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	222.7000 (Tons/Year)
Nitrogen Oxides (NOx)	295.7000 (Tons/Year)
Particulate Matter (PM)	168.4000 (Tons/Year)
Sulfur Oxides (SOx)	38.8000 (Tons/Year)
Volatile Organic Compounds (VOC)	86.2000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: GE Combustion Turbine - Option 1 - Normal Operation

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: natural gas

Throughput: 34000.00 MMCF/YR

Process Notes: Option 1: Two on one configuration: 3,482 MMBtu/hr combustion turbine with 475 MMBtu/hr duct-fired HRSG. Emission limits reflect the operation of one turbine with or without duct firing.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0069 LB/MMBTU WITHOUT DUC AV OF 3 TEST RUNS

Emission Limit 2: 0.0049 LB/MMBTU WITH DUC AV OF 3 TEST RUNS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) good combustion practices and the use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12-month rolling average.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Additional limits: 12.2 lb/hr without duct burning; 17.3 lb/hr with duct burning. These short term limits apply at all times.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0069 LB/MMBTU WITHOUT DUC AV OF 3 TEST RUNS

Emission Limit 2: 0.0049 LB/MMBTU WITH DUC AV OF 3 TEST RUNS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) good combustion practices and the use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12-month rolling average.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Additional limits: 12.2 lb/hr without duct burning; 17.3 lb/hr with duct burning. These short term limits apply at all times.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: fuel sulfur monitoring records

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0011 LB/MMBTU 3 HR AVG

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: NSPS
Control Method: (P) use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12-month rolling average.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Short term limits apply at all times. Determined by fuel monitoring

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Other
Other Test Method: 40 CFR 60, Methods 7E or 20
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 2.0000 PPMVD @ 15% O2 1 H AV
Emission Limit 2: 141.3000 T/YR 12 MO ROLLING TOTAL
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (A) dry, low NOx burners and selective catalytic reduction
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Alternative emission limits apply during tuning, water washing, startup and shutdown. CEMS required.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 1.0000 PPMVD@ 15% O2 3 HR AV/WITHOUT DB
Emission Limit 2: 1.6000 PPMVD@ 15% O2 3 HR AV/WITH DB
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (B) Oxidation catalyst and good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Alternative emission limits apply during startup and shutdown. CEMS required.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.7000 PPMVD @ 15% O2 3 HR AV/WITHOUT DB
Emission Limit 2: 1.4000 PPMVD @ 15% O2 3 HR AV/WITH DB
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP , NSPS
Control Method: (B) Oxidation catalyst and good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Alternative emission limits apply during startup and shutdown. Compliance is based on compliance with CO limits, determined by CEMS.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9
Test Method: Other
Other Test Method: Monitoring sulfur content as per NSPS Subpart KKKK
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 2.5000 LB/H 3 H AV/WITHOUT DUCT BURNING

Emission Limit 2: 2.7000 LB/H 3 H AV/WITH DUCT BURNING
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP , NSPS
Control Method: (P) use of natural gas with a sulfur content of no more than 0.4 gr/100scf, 12-mo rolling av
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Short term limits apply at all times. Compliance based on fuel sulfur monitoring.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 883.0000 LB CO2E/MW-H 12 MO ROLLING TOTAL
Emission Limit 2: 6745.0000 BTU/KW-H NET HHV INITIAL HEAT RATE TEST
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Energy efficient combustion practices and low GHG fuels
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Compliance with the lb/Mw-hr limit can be based on CO2 CEMs or calculations, monthly by summing the CO2e emissions and dividing by the electrical energy output. Complianc with the heat rate limit (Btu/kW-hr) is based on an initial heat rate test on power block.

Process/Pollutant Information

PROCESS NAME: Siemens Combusion Turbine - Option 2 - Normal Operation

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural Gas

Throughput: 35000.00 MMCF/YR

Process Notes: Option 2: Two on one configuration: 3,116 MMBtu/hr combustion turbine with 991 MMBtu/hr duct-fired HRSG. Emission limits reflect the operation of one turbine with or without duct firing.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0065 LB/MMBTU AV OF 3 TEST RUNS/WITHOUT DUCT BURNING

Emission Limit 2: 0.0065 LB/MMBTU AV OF 3 TEST RUNS/WITH DUCT BURNING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) good combustion practices and the use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12 mo rolling av.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Additional limits: 13.7 lb/hr without duct burning; 24.2 lb/hr with duct burning. These short term limits apply at all times.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0065 LB/MMBTU AV OF 3 TEST RUNS/WITHOUT DUCT BURNING

Emission Limit 2: 0.0065 LB/MMBTU AV OF 3 TEST RUNS/WITH DUCT BURNING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) good combustion practices and the use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12-month rolling average.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Additional limits: 13.7 lb/hr without duct burning; 24.2 lb/hr with duct burning. These short term limits apply at all times.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0011 LB/MMBTU 3 H AV

Emission Limit 2: 19.3000 T/YR

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , SIP

Control Method: (P) use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12 mo rolling av.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Short term limits apply at all times. Compliance based on fuel sulfur content measurements and annual fuel consumption

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Other

Other Test Method: 40 CFR 60, METHODS 7E OR 20

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMVD @ 15% O2 1 H AV

Emission Limit 2: 141.4000 T/YR 12 MO ROLLING TOTAL

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (A) DRY, LOW NOx BURNERS & SCR
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Alternative emission limits apply during tuning, water washing, startup and shutdown. CEMS required.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 1.8000 PPMVD @ 15% O2 3 H AV/WITH OR WITHOUT DB
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (B) Oxidation catalyst & good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Alternative emission limits apply during tuning, water washing, startup and shutdown. CEMS required.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.0000 PPMVD @ 15% O2 3 H AV/WITHOUT DB
Emission Limit 2: 2.0000 PPMVD @ 15% O2 3 H AV/WITH DB
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (B) Oxidation catalyst and good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Alternative emission limits apply during startup and shutdown. Compliance is based on compliance with CO limits, determined by CEMS.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Other
Other Test Method: Monitoring sulfur content as per NSPS Subpart KKKK
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 2.2000 LB/H 3 H AV/WITHOUT DB
Emission Limit 2: 2.7000 LB/H 3 H AV/WITH DB
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) use of natural gas with a sulfur content of no more than 0.4 gr/100scf, 12 mo rolling av.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Short term limits apply at all times.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 883.0000 LB CO2E/MW H 12 MO ROLLING TOTAL

Emission Limit 2: 6625.0000 BTU/KW H NET HHV INITIAL HEAT RATE TEST

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Energy efficient combustion practices and low GHG fuels

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Compliance with the LB/MW H limit can be based on CO2 CEMS or calculations, monthly by summing the CO2e emissions & dividing the electrical energy output. Compliance with the heat rate limit (BTU/KW H) is based on an initial heat rate test on power block.

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler

Process Type: 12.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural Gas

Throughput: 902.00 mmcf/y

Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0110 LB/MMBTU CORRECTED TO 3% O2

Emission Limit 2: 1.2000 LB/H

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Low NOx burners

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Annual limit of 5.1 tons/yr on a 12-month rolling total. Compliance based on stack test and annual fuel throughout

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0370 LB/MMBTU
Emission Limit 2: 3.9000 LB/H
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) good combustion practices and clean fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Compliance based on stack test. Annual limit 17.1 T/YR based on fuel throughput.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.8000 LB/H
Emission Limit 2: 3.3000 T/YR 12 MO ROLLING TOTAL
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12-mo rolling av.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.8000 LB/H
Emission Limit 2: 3.3000 T/YR 12 MO ROLLING TOTAL
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas with a max sulfur content of 0.4 gr/100 scf on a 12-mo rolling av.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0012 LB/MMBTU
Emission Limit 2: 0.6000 T/YR 12 MO ROLLING AV
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP

Control Method: (P) The use of pipeline quality natural gas with a max sulfur content of 0.4 gr/100 scf on a 12 mo rolling av.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Compliance is based on compliance with fuel sulfur limit

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) The use of pipeline quality natural gas with a max sulfur content of 0.4 gr/100 scf on a 12 mo rolling av.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Compliance is based on compliance with fuel sulfur content.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0050 LB/MMBTU
Emission Limit 2: 2.3000 T/YR 12 MO ROLLING AV
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP

Control Method: (P) good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 53863.0000 T/YR 12 MO ROLLING TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) use of natural gas and high efficiency design and operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Dew Point Heater
Process Type: 19.600 (Misc. Boilers, Furnaces, Heaters)
Primary Fuel: natural gas
Throughput: 140.00 MMCF/YR
Process Notes: Dew Point Heater (16.0 MMBTU/HR)

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.8000 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Ultra Low NOx burners
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6000 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5000 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12 mo rolling av.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5000 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12 mo rolling av.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: SIP
Control Method: (P) Pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Compliance is based on compliance with fuel sulfur content

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Compliance is based on compliance with fuel sulfur content

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 8208.0000 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) use of natural gas and high efficiency design and operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency Diesel GEN

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Ultra Low Sulfur Diesel

Throughput: 500.00 H/YR

Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 4.8000 G/HP H

Emission Limit 2: 9.6000 T/YR 12 MO ROLLING AV

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: NOX + NMHC

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 G/HP H

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 G/HP H

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 G/HP H

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6000 G/HP H
Emission Limit 2: 5.2000 T/YR 12 MO ROLLING TOTAL
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP , NSPS
Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1:
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 981.0000 T/YR 12 MO ROLLING TOTAL

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) use of S15 ULSD and high efficiency design and operation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: GE Combustion Turbine - Tuning & Water Washing

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: natural gas

Throughput: 34000.00 MMCF/YR

Process Notes: Alternative operating scenario: during periods of tuning and water washing

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Other

Other Test Method: 40 CFR 60, Methods 7E or 20

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 638.0000 LB/TURBINE/CAL DAY 24 HR AV

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) dry, low NOx burners and SCR

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This limit applies during tuning (limited to 18 hours/event) and water washing (limited to 60 minutes/event). Determined by CEMS.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 194.0000 LB/TURBINE/DAY 24 HR AV

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst and good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This limit applies during tuning (limited to 18 hours/event) and water washing (limited to 60 minutes/event). Determined by CEMS.

Process/Pollutant Information

PROCESS NAME: GE Combustion Turbine - Startup and Shutdown

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: natural gas

Throughput: 34000.00 MMCF/YR

Process Notes: Startup and Shutdown

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Other

Other Test Method: 40 CFR 60, Methods 7E or 20

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 273.0000 LB/TURBINE/EVENT COLD START 60 MIN OR LESS
Emission Limit 2: 163.0000 LB/TURBINE/EVENT WARM START 50 MIN OR LESS
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (A) Dry, low NOx burners and SCR
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: 105 lb/turbine/event hot start - 30 minutes or less 18 lb/turbine/event shut down - 30 minutes or less These limits apply during startup and shutdown, which are defined in the permit. Determined by CEMS.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 840.0000 LB/TURBINE/EVENT COLD START 60 MIN OR LESS
Emission Limit 2: 188.0000 LB/TURBINE/EVENT WARM START 50 MIN OR LESS
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Oxidation catalyst and good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: 180 lb/turbine/event hot start - 30 minutes or less 100 lb/turbine/event shutdown - 30 minutes or less These limits apply during startup and shutdown. CEMS required.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC

Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 60.0000 LB/TURBINE/EVENT COLD START 60 MIN OR LESS
Emission Limit 2: LB/TURBINE/EVENT WARM START 50 MIN OR LESS
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Oxidation catalyst and good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: 14 lb/turbine/event hot start - 30 minutes or less 65 lb/turbine/event shutdown - 30 minutes or less Alternative emission limits apply during startup and shutdown. Compliance is based on compliance with CO limits, determined by CEMS.

Process/Pollutant Information

PROCESS NAME: Siemens Combustion Turbine - Tuning & Water Washing
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: Natural Gas
Throughput: 35000.00 MMCF/YR
Process Notes: Alternative operating scenario: during periods of tuning and water washing

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Other
Other Test Method: 40 CFR 60, Methods 7E or 20
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 564.0000 LB/TURBINE CAL DAY 24 HR AV
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (A) dry, low NOx burners and SCR
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This limit applies during tuning (limited to 18 hours/event) and water washing (limited to 60 minutes/event). Determined by CEMS.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 309.0000 LB/TURBINE/DAY 24 HR AV
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Oxidation catalyst and good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This limit applies during tuning (limited to 18 hours/event) and water washing (limited to 60 minutes/event). Determined by CEMS.

Process/Pollutant Information

PROCESS NAME: Siemens Combustion Turbine - Startup & Shutdown
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: Natural Gas
Throughput: 35000.00 MMCF/YR

Process Notes: Startup and Shutdown

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Other

Other Test Method: 40 CFR 60, Methods 7E or 20

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 95.0000 LB/TURBINE/EVENT COLD START 55 MIN OR LESS

Emission Limit 2: 117.0000 LB/TURBINE/EVENT WARM START 55 MIN OR LESS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) dry, low NOx burners and SCR

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 8 lb/turbine/event hot start - 50 minutes or less 51 lb/turbine/event shut down - 38 minutes or less These limits apply during startup and shutdown, which are defined in the permit. Compliance based on CEMS.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 434.0000 LB/TURBINE/EVENT COLD START 55 MIN OR LESS

Emission Limit 2: 397.0000 LB/TURBINE/EVENT WARM START 55 MIN OR LESS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst and good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 36 lb/turbine/event hot start - 50 minutes or less 184 lb/turbine/event shutdown - 38 minutes or less These limits apply during startup and shutdown. CEMS required.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 37.0000 LB/TURBINE/EVENT COLD START 55 MIN OR LESS

Emission Limit 2: 34.0000 LB/TURBINE/EVENT WARM START 55 MIN OR LESS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst and good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 34 lb/turbine/event hot start - 50 minutes or less 56 lb/turbine/event shutdown - 38 minutes or less Alternative emission limits apply during startup and shutdown. Compliance is based on compliance with CO limits, determined by CEMS

Process/Pollutant Information

PROCESS NAME: Emergency Fire Water Pump

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Ultra Low Sulfur Diesel

Throughput: 500.00 HR/YR

Process Notes: 315 BHP

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 15.0000 G/HP/HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/HP HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/HP HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6000 G/HP HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Non-methane hydrocarbons are accounted for in the NOx+NMHC limit of 3.0 g/hp per hr.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1040.0000 T/YR 12 MO ROLLING TOTAL

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.0000 G/HP-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP , NSPS

Control Method: (P) Good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Circuit Breakers - 6

Process Type: 99.999 (Other Miscellaneous Sources)

Primary Fuel:

Throughput: 0.50 %

Process Notes: Quantity 6 Annual leakage rate

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Enclosed-pressure design with low-pressure detection system (with alarm).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Equipment Leaks from Natural Gas Components
Process Type: 99.999 (Other Miscellaneous Sources)
Primary Fuel:
Throughput: 0
Process Notes: Work practice requirements

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Best management practices to prevent, detect and repair leaks of natural gas from the piping components.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Compliance is based on compliance with work practice requirement.

Process/Pollutant Information

PROCESS NAME: Cooling Tower

Process Type: 99.009 (Industrial Process Cooling Towers)

Primary Fuel:

Throughput: 0

Process Notes: No Controls Feasible. P2=Total dissolved solids content of the cooling water effluent shall not exceed 6250 mg/L. Compliance is based on monthly water quality testing.

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Drift rate of 0.00050 percent of the circulating water flow with mist eliminators and a total dissolved solids content of the cooling water, not to exceed 6250 mg.liter.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Particulate matter emissions from the cooling tower will be controlled to a drift rate of 0.00050 percent of the circulating water flow with mist eliminators and a total dissolved solids content of the cooling water effluent shall not exceed 6250 mg/l

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	OH-0377 (final)	**Date Determination**	
		Last Updated:	06/19/2019
Corporate/Company Name:	HARRISON POWER	**Permit Number:**	P0122266
Facility Name:	HARRISON POWER	**Permit Date:**	04/19/2018 (actual)
Facility Contact:	JIM PALUMBO (570)793-6012 JPALUMBO@EMBERCLEAR.COM	**FRS Number:**	Not Found
Facility Description:	1000 MW natural gas-fired combined cycle combustion turbine plant	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	HARRISON		
Facility State:	OH		
Facility ZIP Code:	43907		

Permit Issued By: OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name)
MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov

Permit Notes: Initial installation permit for a 1000 MW combined cycle electric generating facility in Harrison County that includes two (2) combustion turbines with a heat recovery stream generator (HRSG) and duct burners, auxiliary boiler, emergency diesel generator engine, and emergency fire pump engine. The permit includes the option to install either General Electric turbines (with 80 MMBTU aux boiler B002) or Mitsubishi turbines (with 44.55 MMBTU aux boiler B001). The facility-wide pollutants table below is for the GE turbines. The Mitsubishi emissions are as follows: PM10/2.5 155.2, SO2 59.2, NOx 249.9, CO 219.7, VOC 169.5

Facility-wide Emissions:	Pollutant Name:	Facility-wide Emissions Increase:
	Carbon Monoxide	227.6000 (Tons/Year)
	Nitrogen Oxides (NOx)	280.2000 (Tons/Year)
	Particulate Matter (PM)	160.7000 (Tons/Year)
	Sulfur Oxides (SOx)	57.4000 (Tons/Year)
	Volatile Organic Compounds (VOC)	98.4000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B001)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 44.55 MMBTU/H

Process Notes: 44.55 MMBtu/hr natural gas-fired boiler equipped with low-NOx burners. The permit includes the option to install either General Electric turbines (with 80 MMBTU aux boiler B002) or Mitsubishi turbines (with 44.55 MMBTU aux boiler B001).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 1.6700 LB/H
Emission Limit 2: 0.9000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0375 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 1.5600 LB/H
Emission Limit 2: 0.8400 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0350 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Good combustion practices and low NOx burner
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25A
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.1600 LB/H
Emission Limit 2: 0.0860 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0036 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: EPA/OAR Mthd 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3300 LB/H
Emission Limit 2: 0.1800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0075 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3300 LB/H
Emission Limit 2: 0.1800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0075 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Other
Other Test Method: Methods 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3300 LB/H
Emission Limit 2: 0.1800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0075 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Other
Other Test Method: 40 CFR 60.4415
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0220 LB/H
Emission Limit 2: 0.0120 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 5.0000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: EPA/OAR Mthd 8

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.0040 LB/H

Emission Limit 2: 0.0020 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 8.0000 X10-5 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 2817.6000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B002)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 80.00 MMBTU/H

Process Notes: 80 MMBtu/hr natural gas-fired boiler equipped with low-NOx burners. The permit includes the option to install either General Electric turbines (with 80 MMBTU aux boiler B002) or Mitsubishi turbines (with 44.55 MMBTU aux boiler B001).

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.1900 LB/H

Emission Limit 2: 1.1800 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0270 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Good combustion practices and low NOx burner
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.4800 LB/H
Emission Limit 2: 1.3400 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0310 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25A
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2480 LB/H
Emission Limit 2: 0.1340 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0031 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: EPA/OAR Mthd 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4800 LB/H
Emission Limit 2: 0.2600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0060 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 μ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4800 LB/H
Emission Limit 2: 0.2600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0060 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Other
Other Test Method: Methods 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4800 LB/H
Emission Limit 2: 0.2600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0060 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Other
Other Test Method: 40 CFR 60.4415
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.1200 LB/H

Emission Limit 2: 0.0650 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0015 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0180 LB/H
Emission Limit 2: 0.0100 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.2000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 5009.1000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency Diesel Generator (P003)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel

Throughput: 1860.00 HP

Process Notes: 1,387 KW (1,860 HP) emergency diesel-fired generator

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 19.6800 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 0.9800 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: All emissions limits are for Non-methane hydrocarbon (NMHC) + NOX emissions. 0.98 t/yr per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 6.4 g/kW-hr (4.8 g/hp-hr).

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 19.6800 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 0.9800 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: All emissions limits are for Non-methane hydrocarbon (NMHC) + NOX emissions. 0.98 t/yr per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 6.4 g/kW-hr (4.8 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6200 LB/H
Emission Limit 2: 0.0310 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6200 LB/H
Emission Limit 2: 0.0310 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6200 LB/H
Emission Limit 2: 0.0310 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0015 LB/MMBTU
Emission Limit 2: 0.0230 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.001 t/yr per rolling, 12-month period.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 7.3000 X10-4 LB/MMBTU
Emission Limit 2: 0.0030 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00017 t/yr per rolling, 12-month period.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 109.2000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Efficient design and proper maintenance and operation
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent during the acceleration mode; 15 percent during the lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

Process/Pollutant Information

PROCESS NAME: Emergency Fire Pump (P004)
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 320.00 HP
Process Notes: 238.6 KW (320 HP) emergency diesel-fired firewater pump

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 2.1200 LB/H NMHC+NOX. SEE NOTES.
Emission Limit 2: 0.1100 T/YR NMHC+NOX. SEE NOTES.
Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: All emissions limits are for Non-methane hydrocarbon (NMHC) + NOX emissions. 0.11 t/yr per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 2.1200 LB/H NMHC+NOX. SEE NOTES.
Emission Limit 2: 0.1100 T/YR NMHC+NOX. SEE NOTES.
Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: All emissions limits are for Non-methane hydrocarbon (NMHC) + NOX emissions. 0.11 t/yr per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 1.8300 LB/H

Emission Limit 2: 0.0920 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1100 LB/H

Emission Limit 2: 0.0055 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1100 LB/H

Emission Limit 2: 0.0055 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1100 LB/H

Emission Limit 2: 0.0055 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0150 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0015 LB/MMBTU

Emission Limit 2: 0.0040 LB/H

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0002 t/yr per rolling, 12-month period.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 7.3000 X10-4 LB/MMBTU

Emission Limit 2: 6.0000 X10-4 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.00003 t/yr per rolling, 12-month period.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 18.6700 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Efficient design and proper maintenance and operation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: General Electric (GE) Combustion Turbines (P005 & P006)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3459.60 MMBTU/H

Process Notes: Two identical GE Combustion Turbines 1 and 2; GE model 7HA.02 natural gas-fired combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,459.6 MMBtu/hr (HHV) at 100% load and -2° F exhausting through a heat recovery steam generator (HRSG) with supplemental natural gas-fired duct burners nominally rated at 570.45 MMBtu/hr (HHV) controlled with catalytic oxidation and selective catalytic reduction (SCR) used to generate additional electricity. The permit includes the option to install either General Electric turbines (with 80 MMBTU aux boiler B002) or Mitsubishi turbines (with 44.55 MMBTU aux boiler B001). Limits and throughputs are for single turbine except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 29.5000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 139.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (A) dry low NOx burners and an SCR system

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period. 29.5 lb/h with duct burner, except startup and shutdown. 25.1 lb/h without duct burner, except startup and shutdown. 139 tons per rolling 12 month period for all operating modes, including startup and shutdown. 12.99 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 17.9000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 112.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Good combustion practices and oxidation catalyst
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period. 17.9 lb/h with duct burner, except startup and shutdown. 15.3 lb/h without duct burner, except startup and shutdown. 112.8 tons per rolling 12 month period for all operating modes, including startup and shutdown. 35.85 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25A
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 4.3600 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 49.1000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Good combustion practices and oxidation catalyst
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period and 10.3 lb/h with duct burner, except startup and shutdown. 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period and 4.36 lb/h without duct burner, except startup and shutdown. 49.1 tons per rolling 12 month period for all operating modes, including startup and shutdown. 4.81 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0052 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 18.4000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.00522 lb/mmbtu and 18.4 lb/h with duct burner. 0.00735 lb/mmbtu and 12.0 lb/h without duct burner. 80.2 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0052 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 18.4000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00522 lb/mmbtu and 18.4 lb/h with duct burner. 0.00735 lb/mmbtu and 12.0 lb/h without duct burner. 80.2 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0052 LB/MMBTU WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 18.4000 LB/H WITH DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00522 lb/mmbtu and 18.4 lb/h with duct burner. 0.00735 lb/mmbtu and 12.0 lb/h without duct burner. 80.2 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Other
Other Test Method: 40 CFR 60.4415
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0017 LB/MMBTU SEE NOTES.
Emission Limit 2: 5.7500 LB/H WITH DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00174 lb/mmbtu and 4.13 lb/h with duct burner, except startup and shutdown. 0.00174 lb/mmbtu and 5.75 lb/h without duct burner. 28.65 tons per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0010 LB/MMBTU WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 3.5200 LB/H WITH DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00103 lb/mmbtu and 4.13 lb/h with duct burner, except startup and shutdown. 0.00102 lb/mmbtu and 3.52 lb/h without duct burner. 17.55 tons per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1000.0000 LB/MW-H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 1012.4000 LB/MW-H WITHOUT DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) High efficient combustion technology

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: With duct burners: 450 kg per MW-h of gross energy output (1,000 lbs/MW-h) on a 12-operating-month rolling average basis, or, if a petition is granted, CO2 emissions shall not exceed 470 kg per MW-h of net energy output (1,030 lbs/MW-h) on a 12-operating-month rolling average basis. [40 CFR 60.5520(a)-(c) and Table 2 of 40 CFR Part 60, Subpart TTTT] Without duct burners: 1,012.4 lbs/MW-hr gross energy output at full load ISO conditions when firing natural gas. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads. 2,499,820 t/yr of CO2e emissions per rolling, 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Mitsubishi Hitachi Power Systems (MHPS) Combustion Turbines (P007 & P008)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3231.00 MMBTU/H

Process Notes: Two identical MHPS Combustion Turbines 1 and 2; Mitsubishi Model M501JAC natural gas-fired combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,231 MMBtu/hr (HHV) at 100% load and 51° F exhausting through a heat recovery steam generator (HRSG) with supplemental natural gas-fired duct burners nominally rated at 306 MMBtu/hr (HHV) controlled with catalytic oxidation and selective catalytic reduction (SCR) used to generate electricity. The permit includes the option to install either General Electric turbines (with 80 MMBTU aux boiler B002) or Mitsubishi turbines (with 44.55 MMBTU aux boiler B001). Limits and throughputs are for single turbine except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 28.0000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 124.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (A) dry low NOx burners and an SCR system

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period. 28 lb/h with duct burner, except startup and shutdown. 26.7 lb/h without duct burner, except startup and shutdown. 124.0 tons per rolling 12 month period for all operating modes, including startup and shutdown. 3.22 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 17.1000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 109.1000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period. 17.1 lb/h with duct burner, except startup and shutdown. 16.3 lb/h without duct burner, except startup and shutdown. 109.1 tons per rolling 12 month period for all operating modes, including startup and shutdown. 35.40 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 9.8000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 84.7000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 9.8 lb/h with duct burner, except startup and shutdown. 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 4.7 lb/h without duct burner, except startup and shutdown. 84.7 tons per rolling 12 month period for all operating modes, including startup and shutdown. 42.50 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 17.7000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.005 lb/mmbtu and 17.7 lb/h with duct burner. 0.00444 lb/mmbtu and 14.10 lb/h without duct burner. 77.5 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 17.7000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.005 lb/mmbtu and 17.7 lb/h with duct burner. 0.00444 lb/mmbtu and 14.10 lb/h without duct burner. 77.5 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 17.7000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.005 lb/mmbtu and 17.7 lb/h with duct burner. 0.00444 lb/mmbtu and 14.10 lb/h without duct burner. 77.5 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0021 LB/MMBTU

Emission Limit 2: 7.2200 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.0021 lb/mmbtu and 7.22 lb/h with duct burner. 0.0021 lb/mmbtu and 6.92 lb/h without duct burner. 29.57 tons per rolling 12 month period.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0022 LB/MMBTU
Emission Limit 2: 7.7400 LB/H WITH DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.0022 lb/mmbtu and 7.74 lb/h with duct burner. 0.0022 lb/mmbtu and 7.41 lb/h without duct burner. 31.69 tons per rolling 12 month period.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1000.0000 LB/MW-H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 976.0000 LB/MW-H WITHOUT DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) High efficient combustion technology

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: With duct burners: 450 kg per MW-h of gross energy output (1,000 lbs/MW-h) on a 12-operating-month rolling average basis, or, if a petition is granted, CO2 emissions shall not exceed 470 kg per MW-h of net energy output (1,030 lbs/MW-h) on a 12-operating-month rolling average basis. [40 CFR 60.5520(a)-(c) and Table 2 of 40 CFR Part 60, Subpart TTTT] Without duct burners: 976.0 lbs/MW-hr gross energy output at full load ISO conditions when firing natural gas. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads. 2,342,643 tons of CO2e emissions per rolling, 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID: OH-0376 (final)

Date Determination

Last Updated: 06/19/2019

Corporate/Company Name: IRONUNITS LLC - TOLEDO HBI

Permit Number: P0123395

Facility Name: IRONUNITS LLC - TOLEDO HBI

Permit Date: 02/09/2018 (actual)

Facility Contact:	JASON AAGENES (218)744-6037 JASON.AAGENES@CLEVELANDCLIFFS.COM	**FRS Number:**	110070244823
Facility Description:	Hot briquetted iron production	**SIC Code:**	3312
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	331111
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	LUCAS		
Facility State:	OH		
Facility ZIP Code:	43605		
Permit Issued By:	OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name) MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov		
Permit Notes:	Installation of a hot briquetted iron manufacturing facility.		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	577.0100 (Tons/Year)
Nitrogen Oxides (NOx)	478.3700 (Tons/Year)
Particulate Matter (PM)	97.7600 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Reformer (B001)

Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel: Natural gas

Throughput: 1687.00 MMBTU/H

Process Notes: 1,687 mmBtu/hr natural gas and process gas fired reformer with low-NOx burners. Process gas is top gas that has been cleaned by the top gas scrubber.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Other

Other Test Method: temporary CEM to determine 30-day rolling avg lb/mmBtu

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 52.3500 LB/H

Emission Limit 2: 0.0310 LB/MMBTU AS 30-DAY AVERAGE.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 229.29 t/yr per rolling, 12-month period

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Other
Other Test Method: temporary CEM to determine 30-day rolling avg lb/mmBtu
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 99.7500 LB/H
Emission Limit 2: 0.0600 LB/MMBTU AS 30-DAY AVERAGE.
Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Low NOx burners (LNB) and good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 436.89 t/yr per rolling, 12-month period

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 18.7100 LB/H
Emission Limit 2: 0.0120 LB/MMBTU

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and use of gaseous fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 81.96 t/yr per rolling, 12-month period

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 18.7100 LB/H

Emission Limit 2: 0.0120 LB/MMBTU

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and use of gaseous fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 81.96 t/yr per rolling, 12-month period

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and use of gaseous fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1554047.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Use of gaseous fuels, energy integrated design, and good combustion practices through proper operation and maintenance of the unit
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Paved roads (F001)

Process Type: 99.140 (Paved Roads)

Primary Fuel:

Throughput: 0

Process Notes: Trucks for materials transport on paved roads.

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.6300 T/YR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) water flushing and sweeping

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 T/YR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) water flushing and sweeping

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Oxide storage piles (F002)
Process Type: 81.900 (Other Ferrous Metal Industry Processes)
Primary Fuel:
Throughput: 0
Process Notes: Storage piles including load-in, load-out, wind erosion, and front-end loader traffic on unpaved areas

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.5200 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Use of water or chemical suppressant and minimize drop height
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.3300 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Use of water or chemical suppressant and minimize drop height
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Direct Reduced Iron reactor shaft furnace (P001)
Process Type: 81.900 (Other Ferrous Metal Industry Processes)
Primary Fuel:
Throughput: 320.00 T/H
Process Notes: Direct Reduced Iron (DRI) reactor, this emissions unit includes emissions from the charge hopper exhaust controlled by a venturi scrubber and bottom seal gas exhaust controlled by a venturi scrubber

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.8200 LB/H FROM CHARGE HOPPER EXHAUST STACK
Emission Limit 2: 43.0000 LB/H FROM BOTTOM SEAL GAS EXHAUST STACK
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Optimum equipment design
Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 12.36 t/yr per rolling, 12-month period from Charge Hopper Exhaust Stack 188.34 t/yr per rolling, 12-month period from Bottom Seal Gas Exhaust Stack

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0200 LB/H FROM CHARGE HOPPER EXHAUST STACK

Emission Limit 2: 0.4300 LB/H FROM BOTTOM SEAL GAS EXHAUST STACK

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Optimum equipment design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 8.85 t/yr per rolling, 12-month period from Charge Hopper Exhaust Stack 1.88 t/yr per rolling, 12-month period from Bottom Seal Gas Exhaust Stack

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 GR/DSCF FROM CHARGE HOPPER EXHAUST STACK

Emission Limit 2: 0.0075 GR/DSCF FROM BOTTOM SEAL GAS EXHAUST STACK

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) venturi scrubber and good combustion practices at the reformer
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.10 lb/h and 0.44 t/yr per rolling, 12-month period from Charge Hopper Exhaust Stack 2.61 lb/r and 11.44 t/yr per rolling, 12-month period from Bottom Seal Gas Exhaust Stack

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 GR/DSCF FROM CHARGE HOPPER EXHAUST STACK
Emission Limit 2: 0.0075 GR/DSCF FROM BOTTOM SEAL GAS EXHAUST STACK
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) venturi scrubber and good combustion practices at the reformer
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.10 lb/h and 0.44 t/yr per rolling, 12-month period from Charge Hopper Exhaust Stack 2.61 lb/r and 11.44 t/yr per rolling, 12-month period from Bottom Seal Gas Exhaust Stack

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 5891.0000 T/YR CHARGE HOPPER EXHAUST STACK. SEE NOTES
Emission Limit 2: 170.0000 T/YR BOTTOM SEAL GAS EXHAUST STACK. SEE NOTES
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Optimum equipment design and energy integration
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 5891 t/yr per rolling, 12-month period from Charge Hopper Exhaust Stack 170 t/yr per rolling, 12-month period from Bottom Seal Gas Exhaust Stack

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: EPA/OAR Mthd 9
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (B) venturi scrubber and good combustion practices at the reformer
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Iron briquetting machine (P002)
Process Type: 81.900 (Other Ferrous Metal Industry Processes)
Primary Fuel:
Throughput: 320.00 T/H

Process Notes: Iron briquetting machine vented to venturi scrubber

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.0700 LB/H
Emission Limit 2: 9.0700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Optimum equipment design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 3.9400 LB/H
Emission Limit 2: 17.2500 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Optimum equipment design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0076 GR/DSCF

Emission Limit 2: 4.1000 LB/H

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) venturi scrubber and good combustion practices at the reformer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 17.96 t/yr per rolling, 12-month period

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0076 GR/DSCF

Emission Limit 2: 4.1000 LB/H

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) venturi scrubber and good combustion practices at the reformer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 17.96 t/yr per rolling, 12-month period

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 54072.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Optimum equipment design and energy integration
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: EPA/OAR Mthd 9
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (B) venturi scrubber and good combustion practices at the reformer
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Iron briquette cooling system (P003)

Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel:

Throughput: 320.00 T/H

Process Notes: Iron briquette cooling system vented to venturi scrubber

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Method 5

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0076 GR/DSCF

Emission Limit 2: 3.8000 LB/H

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) venturi scrubber

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 16.64 t/yr per rolling, 12-month period

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (A) venturi scrubber

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Process water degasser (P004)

Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel:

Throughput: 0

Process Notes: Process water degasser

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 24.2600 LB/H

Emission Limit 2: 106.2400 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Optimum equipment design and operation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1105.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Optimum equipment design and operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Wet Cooling Tower (P005)
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel:
Throughput: 24766.00 GAL/M
Process Notes: 4 cell wet cooling tower equipped with a high efficiency drift eliminator

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 LB/H
Emission Limit 2: 0.0900 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 1,100 parts per million by weight (ppmw).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0100 LB/H

Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 1,100 parts per million by weight (ppmw).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 1,100 parts per million by weight (ppmw).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Emergency diesel-fueled fire pump (P006)

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 250.00 HP

Process Notes: 250 hp emergency diesel-fueled fire pump

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 1.4000 LB/H

Emission Limit 2: 0.3600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 1.6000 LB/H
Emission Limit 2: 0.4100 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 3.0000 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NOx Standard limit is 4.0 g/kW-hr (3.0 g/hp-hr). NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/H
Emission Limit 2: 0.0200 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1800 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.24 g/kW-hr (0.18 g/hp-hr). NSPS: 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/H
Emission Limit 2: 0.0200 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1800 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.24 g/kW-hr (0.18 g/hp-hr). NSPS: 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 163.6000 LB/MMBTU
Emission Limit 2: 79.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Equipment design and maintenance requirements
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Emergency diesel-fired generator (P007)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 2682.00 HP
Process Notes: 2,000 kW (2,682 hp) emergency diesel-fired generator

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:

Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 15.4000 LB/H
Emission Limit 2: 3.8600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.6000 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 28.2000 LB/H

Emission Limit 2: 7.0500 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 4.8000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NOx Standard limit is 6.4 g/kW-hr (4.8 g/hp-hr). NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 6.4 g/kW-hr (4.8 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.0100 LB/H

Emission Limit 2: 0.2500 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1700 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.23 g/kW-hr (0.17 g/hp-hr). NSPS: 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.0100 LB/H
Emission Limit 2: 0.2500 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1700 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.23 g/kW-hr (0.17 g/hp-hr). NSPS: 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 163.6000 LB/MMBTU
Emission Limit 2: 683.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Equipment design and maintenance requirements
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Pressure Relief Vent Flare (P008)
Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel:

Throughput: 0

Process Notes: Pressure Relief Vent Flare

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 552.6400 LB/H

Emission Limit 2: 27.4900 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Minimize flaring from startup, shutdown, and upset events by operating in accordance with flare minimization plan. Meet the 40 CFR 60.18 requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 121.2100 LB/H

Emission Limit 2: 6.0300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Minimize flaring from startup, shutdown, and upset events by operating in accordance with flare minimization plan. Meet the 40 CFR 60.18 requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 13.2800 LB/H
Emission Limit 2: 0.6600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and equipment design elements for both natural gas pilot and pressure relief events
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 13.2800 LB/H
Emission Limit 2: 0.6600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and equipment design elements for both natural gas pilot and pressure relief events

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 10386.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Minimize flaring from startup, shutdown, and upset events by operating in accordance with flare minimization plan.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices and equipment design elements for both natural gas pilot and pressure relief events

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Oxide Handling, Bins, Screens (P901)

Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel:

Throughput: 0

Process Notes: Iron oxide material handling consisting of: TR-1 (conveyor to Transfer Tower I with baghouse), TR-2 (conveyor to stack machine conveyor fully enclosed), TR-5 (conveyor from reclaim machine to conveyor fully enclosed), TR-6 and TR-7 (conveyor from reclaim to Transfer Tower II and III with baghouses), TR-10 (oxide day bins to conveyors with baghouses), SR-1 (oxide screen with baghouse), TR-13 (oxide transfer to bucket elevator with baghouse), and TR-14 (coating storage and mixing and fines transfer tower with baghouse)

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.9200 LB/H

Emission Limit 2: 5.5000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) baghouses

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: For TR-1, TR-6, TR-7, TR-10, SR-1, TR-13, TR-14: Full enclosures vented to baghouses designed to meet an outlet grain loading of not more than 0.0025 grains per dry standard cubic foot (gr/dscf) of exhaust each at all times the emissions unit is in operation. All PM is assumed to be emitted as PM2.5. For TR-2, TR-5: full enclosure

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.3200 LB/H

Emission Limit 2: 5.1900 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) baghouses

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: For TR-1, TR-6, TR-7, TR-10, SR-1, TR-13, TR-14: Full enclosures vented to baghouses designed to meet an outlet grain loading of not more than 0.0025 grains per dry standard cubic foot (gr/dscf) of exhaust each at all times the emissions unit is in operation. All PM is assumed to be emitted as PM2.5. For TR-2, TR-5: full enclosure

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 3 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (A) baghouses
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Visible emissions of fugitive dust from this emissions unit shall not exceed twenty percent opacity as a three-minute average.

Process/Pollutant Information

PROCESS NAME: HBI Conveyor Transfers with Scrubbers and loadout building (P902)
Process Type: 81.900 (Other Ferrous Metal Industry Processes)
Primary Fuel:
Throughput: 0
Process Notes: Hot briquetted iron (HBI)/Direct reduced iron (DRI) material handling consisting of: TR-17 & TR-18 (three HBI conveyor transfer towers with two venturi scrubbers), TR-19 (HBI Conveyor to Stacker Machine), TR-22 (HBI drop from hopper to conveyor), TR-23 (HBI conveyor from transfer tower to HBI loadout building with venturi scrubber), TR-24 (Conveyor transfer to loading bin with venturi scrubber), TR-25 (HBI truck loadout vented to venturi scrubber), TR-26 (HBI railcar loading inside shed with two sides and roof, strip curtains at the entrance and exit of the loading shed, use of a telescoping loading chute, and use of water or chemical spray during loading), and TR-27 (HBI truck loading fugitive emissions)

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4700 LB/H
Emission Limit 2: 1.5100 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Use of venturi scrubbers, use of partial enclosures and use of water/chemical suppressants
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: For TR-17, TR-18, TR-23, TR-24, TR-25: scrubber designed to meet outlet grain loading of not more than 0.0025 grains per dry standard cubic foot (gr/dscf). For TR-19, TR-22: full enclosure For TR-26: railcar loading shed with two sides and roof, strip curtains at the entrance and exit of the loading shed, use of a telescoping loading chute, and use of water or chemical suppressants during loading. For TR-27: enclosure with doors that will remain closed during loading

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4300 LB/H

Emission Limit 2: 1.4100 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Use of venturi scrubbers, use of partial enclosures and use of water/chemical suppressants

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: For TR-17, TR-18, TR-23, TR-24, TR-25: scrubber designed to meet outlet grain loading of not more than 0.0025 grains per dry standard cubic foot (gr/dscf). For TR-19, TR-22: full enclosure For TR-26: railcar loading shed with two sides and roof, strip curtains at the entrance and exit of the loading shed, use of a telescoping loading chute, and use of water or chemical suppressants during loading. For TR-27: enclosure with doors that will remain closed during loading

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis:	N/A
Other Applicable Requirements:	SIP
Control Method:	(B) Use of venturi scrubbers, use of partial enclosures and use of water/chemical suppressants
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	Visible particulate emissions from any stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule. Visible emissions of fugitive dust from this emissions unit shall not exceed twenty percent opacity as a three-minute average.

Facility Information

RBLC ID:	OH-0375 (final)	**Date Determination Last Updated:**	06/19/2019
Corporate/Company Name:	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	**Permit Number:**	P0122829
Facility Name:	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	**Permit Date:**	11/07/2017 (actual)
Facility Contact:	KENNETH NICHOLSON (212)478-4128 RSTEWART@FORTRESS.COM	**FRS Number:**	110070396014
Facility Description:	Combined cycle combustion turbine power generation facility	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	MONROE		
Facility State:	OH		
Facility ZIP Code:	43931		
Permit Issued By:	OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name) MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov		
Permit Notes:	Initial installation permit for a 485 MW combined cycle electric generating facility in Monroe County. The emissions units include a combustion turbine with a heat recovery stream generator (HRSG) and duct burners, auxiliary boiler, emergency diesel generator engine, emergency fire pump engine, and an eight-cell mechanical draft low-mist wet cooling tower. The Project will use either a GE Model 7HA.02 (P004), Mitsubishi Model 501JAC (P005) or Siemens Model SCC6-8000H (P006) combustion turbine (CT) with duct firing in the HRSG to increase steam generation in the steam turbine. Only one turbine will be built but each of these turbines are included in this RBLC entry.		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	146.6600 (Tons/Year)
Nitrogen Oxides (NOx)	136.5200 (Tons/Year)

Particulate Matter (PM)	94.2100 (Tons/Year)
Sulfur Oxides (SOx)	23.2300 (Tons/Year)
Volatile Organic Compounds (VOC)	80.5100 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B001)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 26.80 MMBTU/H

Process Notes: 26.8 MMBtu/hr natural gas-fired boiler with a low-NOx burner and flue gas recirculation

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.2900 LB/H

Emission Limit 2: 0.7400 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0110 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Flue gas recirculation and low NOX burner

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.9900 LB/H

Emission Limit 2: 2.4800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0370 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.1300 LB/H
Emission Limit 2: 0.3400 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0050 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: EPA/OAR Mthd 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2700 LB/H

Emission Limit 2: 0.6700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0100 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2700 LB/H
Emission Limit 2: 0.6700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0100 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 5 and 202
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2700 LB/H
Emission Limit 2: 0.6700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0100 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0030 LB/H
Emission Limit 2: 0.0070 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 1.1000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):

Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 7845.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Natural gas as the sole fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency Diesel Generator Engine (P001)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 2206.00 HP

Process Notes: 1,645 kW (2,206 HP) emergency diesel-fired generator to provide on-site emergency power capabilities independent of the utility grid.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 24.7100 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 1.2400 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Non-methane hydrocarbon plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 6.40 g/kW-h (4.8 g/hp-h), 24.71 lb/h and 1.24 t/yr per rolling, 12-month period.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 24.7100 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 1.2400 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Non-methane hydrocarbon plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 6.40 g/kW-h (4.8 g/hp-h), 24.71 lb/h and 1.24 t/yr per rolling, 12-month period.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 12.6400 LB/H
Emission Limit 2: 0.6300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.6000 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7300 LB/H
Emission Limit 2: 0.0370 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7300 LB/H
Emission Limit 2: 0.0370 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7300 LB/H
Emission Limit 2: 0.0370 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0016 LB/H
Emission Limit 2: 7.9000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00011 lb/MMBtu

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 116.8000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Efficient design
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent during the acceleration mode; 15 percent during the lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

Process/Pollutant Information

PROCESS NAME: Emergency Diesel Fire Pump Engine (P002)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 700.00 HP
Process Notes: 700 hp emergency diesel-fired fire pump to provide on-site firefighting capabilities independent of the utility grid

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 4.9700 LB/H NMHC+NOX. SEE NOTES.
Emission Limit 2: 0.2500 T/YR NMHC+NOX. SEE NOTES.
Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Nonmethane hydrocarbons plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 4.0 g/kW-hour, 4.97 pounds per hour and 0.25 ton per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 4.9700 LB/H NMHC+NOX. SEE NOTES.
Emission Limit 2: 0.2500 T/YR NMHC+NOX. SEE NOTES.
Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Nonmethane hydrocarbons plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 4.0 g/kW-hour, 4.97 pounds per hour and 0.25 ton per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 4.0100 LB/H
Emission Limit 2: 0.2000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.6000 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2300 LB/H
Emission Limit 2: 0.0120 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2300 LB/H
Emission Limit 2: 0.0120 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2300 LB/H
Emission Limit 2: 0.0120 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 5.4000 X10-4 LB/H

Emission Limit 2: 2.7000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 1.1000 X10-4 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 40.1000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Efficient design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (P) Good combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Wet Mechanical Draft Cooling Tower (P003)

Process Type: 99.009 (Industrial Process Cooling Towers)

Primary Fuel:

Throughput: 120000.00 GAL/M

Process Notes: 8-cell wet cooling tower with a maximum circulating water flow rate of 120,000 gallons per minute (gpm), equipped with a high efficiency drift eliminator.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 6.5800 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) High efficiency drift eliminator designed to achieve a 0.0005% drift rate and total dissolved solids (TDS) content not to exceed 5,000 mg/l.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 4.2400 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) High efficiency drift eliminator designed to achieve a 0.0005% drift rate and total dissolved solids (TDS) content not to exceed 5,000 mg/l.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.5800 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) High efficiency drift eliminator designed to achieve a 0.0005% drift rate and total dissolved solids (TDS) content not to exceed 5,000 mg/l.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: General Electric Combustion Turbine (P004)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3544.00 MMBTU/H

Process Notes: General Electric model 7HA.02 natural gas or natural gas+ethane fired combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,544 MMBtu/hr at 100% load and -5° F exhausting through a heat recovery steam generator (HRSG) controlled with catalytic oxidation and selective catalytic reduction (SCR) used to generate additional electricity. The Project will use either a GE Model 7HA.02 (P004), Mitsubishi Model 501JAC (P005) or Siemens Model SCC6-8000H (P006) combustion turbine (CT) with duct firing in the HRSG to increase steam generation in the steam turbine. Only one turbine will be built but each of these turbines are included in this RBLC entry.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 26.1000 LB/H EXCEPT STARTUP AND SHUTDOWN. SEE NOTES

Emission Limit 2: 125.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS
Control Method: (A) dry low NOx burners and an SCR system
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 2.0 ppmvd at 15% oxygen (O2) and 26.1 pounds per hour, excluding periods of startup and shutdown. 125.8 tons of NOx per rolling, 12-month period, including start-up and shutdown emissions. 164.5 lb/h during cold startup, 109.7 lb/h during hot startup, 87.4 lb/h during warm startup, and 27.9 lb/h during shutdown.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 15.9000 LB/H EXCEPT STARTUP AND SHUTDOWN. SEE NOTES
Emission Limit 2: 123.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Oxidation catalyst and good combustion practices as recommended by the manufacturer.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 2.0 ppmvd at 15% oxygen (O2) and 15.9 pounds per hour, excluding periods of startup and shutdown. 123.8 tons of NOx per rolling, 12-month period, including start-up and shutdown emissions. 877.0 lb/h during cold startup, 145.3 lb/h during hot startup, 130.6 lb/h during warm startup, and 137.7 lb/h during shutdown.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25A
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 4.5400 LB/H EXCEPT STARTUP AND SHUTDOWN. SEE NOTES
Emission Limit 2: 26.4000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 1.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Oxidation catalyst and good combustion practices as recommended by the manufacturer.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 1.0 ppmvd at 15% oxygen (O2) and 4.54 pounds per hour, excluding periods of startup and shutdown. 26.4 tons of NOx per rolling, 12-month period, including start-up and shutdown emissions. 78.1 lb/h during cold startup, 11.5 lb/h during hot startup, 12.0 lb/h during warm startup, and 29.6 lb/h during shutdown.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0036 LB/MMBTU

Emission Limit 2: 12.1000 LB/H

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 53.0 t/yr per rolling, 12-month period, including start-up and shutdown emissions.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0036 LB/MMBTU

Emission Limit 2: 12.1000 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) natural gas or a natural gas and ethane mixture only
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 53.0 t/yr per rolling, 12-month period, including start-up and shutdown emissions.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0036 LB/MMBTU
Emission Limit 2: 12.1000 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) natural gas or a natural gas and ethane mixture only
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 53.0 t/yr per rolling, 12-month period, including start-up and shutdown emissions.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.0011 LB/MMBTU
Emission Limit 2: 3.7800 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) natural gas or a natural gas and ethane mixture only
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 16.56 t/yr per rolling, 12-month period, including start-up and shutdown emissions.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 775.0000 LB/MW-H SEE NOTES.
Emission Limit 2: 1915689.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) high efficiency combustion practices as recommended by the manufacturer
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 775 lb/MW-hr gross energy output at full load ISO conditions when firing natural gas. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads.

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE

Test Method: EPA/OAR Mthd 9
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) natural gas or a natural gas and ethane mixture only
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Mitsubishi Combustion Turbine (P005)
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: Natural gas
Throughput: 3320.00 MMBTU/H
Process Notes: Mitsubishi Model 501JAC natural gas or natural gas+ethane fired combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,320 MMBtu/hr at 100% load and -5° F exhausting through a heat recovery steam generator (HRSG) with supplemental natural gas-fired duct burners nominally rated at 108 MMBtu/hr controlled with catalytic oxidation and selective catalytic reduction (SCR) used to generate electricity. The Project will use either a GE Model 7HA.02 (P004), Mitsubishi Model 501JAC (P005) or Siemens Model SCC6-8000H (P006) combustion turbine (CT) with duct firing in the HRSG to increase steam generation in the steam turbine. Only one turbine will be built but each of these turbines are included in this RBLC entry.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 25.1000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 119.4000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (A) dry low NOx burners and an SCR system

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 25.10 lb/h with duct burner (except startup and shutdown). 26.4 lb/h without duct burner (except startup and shutdown). 119.4 t/yr per rolling 12 month period for all operating modes, including startup. 68.1 lb/h during cold startup, 55.4 lb/h during warm startup, 34.6 lb/h during hot startup, and 37.9 lb/h during shutdown.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 15.3000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 121.2000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 15.30 lb/h with duct burner (except startup and shutdown). 16.1 lb/h without duct burner (except startup and shutdown). 121.2 t/yr per rolling 12 month period for all operating modes, including startup. 538.6 lb/h during cold startup, 449.4 lb/h during warm startup, 140.7 lb/h during hot startup, and 162.7 lb/h during shutdown.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 8.8000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 79.3000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 8.80 lb/h with duct burner (except startup and shutdown). 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 4.60 lb/h without duct burner (except startup and shutdown). 79.3 t/yr per rolling 12 month period for all operating modes, including startup. 224.7 lb/h during cold startup, 225.1 lb/h during warm startup, 185.9 lb/h during hot startup, and 97.0 lb/h during shutdown.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 12.6000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.004 lb/mmbtu and 12.60 lb/h with duct burner (except startup and shutdown). 0.0037 lb/mmbtu and 12.3 lb/h without duct burner (except startup and shutdown). 55.2 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 12.6000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.004 lb/mmbtu and 12.60 lb/h with duct burner (except startup and shutdown). 0.0037 lb/mmbtu and 12.3 lb/h without duct burner (except startup and shutdown). 55.2 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 12.6000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.004 lb/mmbtu and 12.60 lb/h with duct burner (except startup and shutdown). 0.0037 lb/mmbtu and 12.3 lb/h without duct burner (except startup and shutdown). 55.2 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.0009 LB/MMBTU

Emission Limit 2: 2.8500 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0009 lb/mmbtu. 2.85 lb/h with duct burner (except startup and shutdown). 2.99 lb/h without duct burner (except startup and shutdown). 13.1 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1000.0000 LB/MW-H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 775.0000 LB/MW-H WITHOUT DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) high efficiency combustion practices as recommended by the manufacturer
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: With duct burners: 450 kg per MW-h of gross energy output (1,000 lbs/MW-h) on a 12-operating-month rolling average basis, or, if a petition is granted, CO2 emissions shall not exceed 470 kg per MW-h of net energy output (1,030 lbs/MW-h) on a 12-operating- month rolling average basis. [40 CFR 60.5520(a)-(c) and Table 2 of 40 CFR Part 60, Subpart TTTT] Without duct burners: 775 lb/MW-hr gross energy output at full load ISO conditions when firing natural gas. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads. 1,811,235 t/yr per rolling, 12-month period.

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: EPA/OAR Mthd 9
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) natural gas or a natural gas and ethane mixture only
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Siemens Combustion Turbine (P006)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3602.00 MMBTU/H

Process Notes: Siemens Model SCC6-8000H natural gas or natural gas+ethane fired combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,602 MMBtu/hr at 100% load and -5° F exhausting through a heat recovery steam generator (HRSG) with supplemental natural gas-fired duct burners nominally rated at 667 MMBtu/hr controlled with catalytic oxidation and selective catalytic reduction (SCR) used to generate electricity. The Project will use either a GE Model 7HA.02 (P004), Mitsubishi Model 501JAC (P005) or Siemens Model SCC6-8000H (P006) combustion turbine (CT) with duct firing in the HRSG to increase steam generation in the steam turbine. Only one turbine will be built but each of these turbines are included in this RBLC entry.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 27.1000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 128.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (A) dry low NOx burners and an SCR system

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 27.10 lb/h with duct burner (except startup and shutdown). 22.4 lb/h without duct burner (except startup and shutdown). 128.8 t/yr per rolling 12 month period for all operating modes, including startup. 72.7 lb/h during cold startup, 87.1 lb/h during warm startup, 77.7 lb/h during hot startup, and 44.8 lb/h during shutdown.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 16.5000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 142.6000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 16.5 lb/h with duct burner (except startup and shutdown). 13.6 lb/h without duct burner (except startup and shutdown). 142.6 t/yr per rolling 12 month period for all operating modes, including startup. 447.9 lb/h during cold startup, 439.9 lb/h during warm startup, 370.3 lb/h during hot startup, and 118.5 lb/h during shutdown.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 9.5000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 50.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 9.5 lb/h with duct burner (except startup and shutdown). 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 3.9 lb/h without duct burner (except startup and shutdown). 50.8 t/yr per rolling 12 month period for all operating modes, including startup. 40.4 lb/h during cold startup, 40.2 lb/h during warm startup, 40.7 lb/h during hot startup, and 39.4 lb/h during shutdown.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0057 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 19.8000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0057 lb/mmbtu and 19.8 lb/h with duct burner (except startup and shutdown). 0.006 lb/mmbtu and 13 lb/h without duct burner (except startup and shutdown). 86.7 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0057 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 19.8000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0057 lb/mmbtu and 19.8 lb/h with duct burner (except startup and shutdown). 0.006 lb/mmbtu and 13 lb/h without duct burner (except startup and shutdown). 86.7 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0057 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 19.8000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0057 lb/mmbtu and 19.8 lb/h with duct burner (except startup and shutdown). 0.006 lb/mmbtu and 13 lb/h without duct burner (except startup and shutdown). 86.7 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: EPA/OAR Mthd 8

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 5.2000 X10-4 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 1.8100 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.00052 lb/mmbtu and 1.81 lb/h with duct burner (except startup and shutdown). 0.00055 lb/mmbtu and 1.5 lb/h without duct burner (except startup and shutdown). 7.9 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1000.0000 LB/MW-H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 775.0000 LB/MW-H WITHOUT DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) high efficiency combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 450 kg per MW-h of gross energy output (1,000 lbs/MW-h) on a 12-operating-month rolling average basis, or, if a petition is granted, CO2 emissions shall not exceed 470 kg per MW-h of net energy output (1,030 lbs/MW-h) on a 12-operating- month rolling average basis. [40 CFR 60.5520(a)-(c) and Table 2 of 40 CFR Part 60, Subpart TTTT] 775 lb/MW-hr gross energy output at full load ISO conditions when firing natural gas. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads. 1,962,130 tons of CO2e emissions per rolling, 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	OH-0374 (final)	**Date Determination Last Updated:**	06/19/2019
Corporate/Company Name:	GUERNSEY POWER STATION LLC	**Permit Number:**	P0122594
Facility Name:	GUERNSEY POWER STATION LLC	**Permit Date:**	10/23/2017 (actual)
Facility Contact:	MARY KING (317)447-4513 MARY@APEXPOWERGROUP.COM	**FRS Number:**	110070379546
Facility Description:	1,650 MW combined cycle combustion turbine electrical generating facility	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	GUERNSEY		
Facility State:	OH		
Facility ZIP Code:	43723		
Permit Issued By:	OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name) MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov		
Permit Notes:	Installation PTI for a new 1,650 MW combined cycle natural-gas fired turbine plant and associated auxiliary boiler, firewater pumps, emergency generators and fuel gas heaters		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	296.6000 (Tons/Year)
Nitrogen Oxides (NOx)	446.4000 (Tons/Year)
Particulate Matter (PM)	294.7000 (Tons/Year)
Sulfur Oxides (SOx)	86.8000 (Tons/Year)

Volatile Organic Compounds (VOC) 150.4000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B001)

Process Type: 12.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 185.00 MMBTU/H

Process Notes: 185.0 MMBtu/hr natural gas-fired boiler with low-NOx burners and flue gas recirculation (FGR)

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Other

Other Test Method: CEM for NOx

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.7000 LB/H

Emission Limit 2: 9.2500 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0200 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) low-NOx burners and flue gas recirculation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 10.1800 LB/H

Emission Limit 2: 25.4500 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0550 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Gas combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.9300 LB/H

Emission Limit 2: 2.3300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0050 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Gas combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.3000 LB/H

Emission Limit 2: 3.2500 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0070 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Gas combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.3000 LB/H

Emission Limit 2: 3.2500 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0070 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Gas combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.3000 LB/H

Emission Limit 2: 3.2500 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0070 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Gas combustion control
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Other
Other Test Method: 40 CFR 60.4415
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.2800 LB/H
Emission Limit 2: 0.7000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0015 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline natural gas fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.0430 LB/H
Emission Limit 2: 0.1100 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.3000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline natural gas fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 54167.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Natural gas, low-emitting fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified

Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Gas combustion control
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Combined Cycle Combustion Turbines (3, identical) (P001 to P003)
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: Natural gas
Throughput: 3516.00 MMBTU/H
Process Notes: Three identical Combustion Turbines; GE 7HA.02 natural gas-fired lean pre-mix combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,516 MMBtu/hr HHV at 100% load and -18° F exhausting through a heat recovery steam generator (HRSG) with supplemental natural gas-fired duct burners nominally rated at 997 MMBtu/hr HHV controlled with catalytic oxidation and selective catalytic reduction (SCR) and cooled with an air-cooled condenser (ACC) used to generate electricity. Throughputs and limits are for a single turbine except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 33.8500 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 26.3700 LB/H WITHOUT DUCT BURNERS. SEE NOTES.
Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) dry low NOx burners and SCR

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 2.0 ppm by volume, dry basis (ppmvd) at 15% oxygen turbine with duct burners and turbine only, both excluding startup and shutdown. 26.37 lb/h without duct burners. 33.85 lb/h with duct burners. Both excluding startup and shutdown 266.7 lb/cold startup, 140.7 lb/hot startup, 88.4 lb/warm startup and 32.7 lb/shutdown. 422.19 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 20.7600 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 16.1700 LB/H WITHOUT DUCT BURNERS. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 2.0 ppm by volume, dry basis (ppmvd) at 15% oxygen turbine with duct burners and turbine only, both excluding startup and shutdown. 16.17 lb/h without duct burners. 20.76 lb/h with duct burners. Both excluding startup and shutdown 791.6 lb/cold startup, 161.5 lb/hot startup, 133.0 lb/warm startup and 139.6 lb/shutdown. 300.61 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 11.7300 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 4.9200 LB/H WITHOUT DUCT BURNERS. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 2.0 ppm by volume, dry basis (ppmvd) at 15% oxygen turbine with duct burners. 1.0 ppm by volume, dry basis (ppmvd) at 15% oxygen without duct burners. Both excluding startup and shutdown. 4.92 lb/h without duct burners. 11.73 lb/h with duct burners. Both excluding startup and shutdown. 55.9 lb/cold startup, 13.7 lb/hot startup, 16.5 lb/warm startup and 34.9 lb/shutdown. 146.91 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0073 LB/MMBTU SEE NOTES.

Emission Limit 2: 23.3000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 0.0073 lb/mmbtu with duct burners and without duct burners. Both excluding startup and shutdown. 12.30 lb/h without duct burners. 23.30 lb/h with duct burners. Both excluding startup and shutdown. 290.39 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0073 LB/MMBTU SEE NOTES.

Emission Limit 2: 23.3000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 0.0073 lb/mmbtu with duct burners and without duct burners. Both excluding startup and shutdown. 12.30 lb/h without duct burners. 23.30 lb/h with duct burners. Both excluding startup and shutdown. 290.39 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0073 LB/MMBTU SEE NOTES.

Emission Limit 2: 23.3000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 0.0073 lb/mmbtu with duct burners and without duct burners. Both excluding startup and shutdown. 12.30 lb/h without duct burners. 23.30 lb/h with duct burners. Both excluding startup and shutdown. 290.39 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0015 LB/MMBTU SEE NOTES.

Emission Limit 2: 6.7700 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) pipeline quality natural gas with a maximum sulfur content not exceed 0.50 grain/100 scf

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 0.0015 lb/mmbtu with duct burners and without duct burners. Both excluding startup and shutdown. 5.27 lb/h without duct burners. 6.77 lb/h with duct burners. Both excluding startup and shutdown. 88.96 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: EPA/OAR Mthd 8

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.0011 LB/MMBTU SEE NOTES.

Emission Limit 2: 4.9600 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) pipeline quality natural gas with a maximum sulfur content not exceed 0.50 grain/100 scf

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 0.0011 lb/mmbtu with duct burners and without duct burners. Both excluding startup and shutdown. 3.87 lb/h without duct burners. 4.96 lb/h with duct burners. Both excluding startup and shutdown. 65.17 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 846.0000 LB/MW-H WITHOUT DUCT BURNER. SEE NOTES.

Emission Limit 2: 1000.0000 LB/MW-H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) high efficiency combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 846 lb/MW-hr gross energy output at full load ISO conditions without duct burner. 450 kg per MW-h of gross energy output (1,000 lbs/MW-h) on a 12-operating-month rolling average basis with duct burner. 7,056,798 t/yr per rolling 12 month period for all 3 turbines.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency Generators (2 identical, P004 and P005)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 2206.00 HP
Process Notes: Two identical Emergency Generators; 1,645 kW (2,206 HP) emergency diesel-fired generator to provide on-site emergency power capabilities independent of the utility grid. Throughputs and limits are for a single generator except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 23.2100 LB/H NMHC+NOX. SEE NOTES.
Emission Limit 2: 1.1600 T/YR NMHC+NOX. SEE NOTES.
Standard Emission: 4.7700 G/BHP-H NMHC+NOX. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturer's operating manual.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Non-methane hydrocarbon plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 6.40 g/kW-hour (4.77 G/BHP-H), 23.21 pounds per hour and 1.16 tons per rolling, 12-month period.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 23.2100 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 1.1600 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 4.7700 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Non-methane hydrocarbon plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 6.40 g/kW-hour (4.77 G/BHP-H), 23.21 pounds per hour and 1.16 tons per rolling, 12-month period.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 12.6900 LB/H

Emission Limit 2: 0.6300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7300 LB/H
Emission Limit 2: 0.0370 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturer's operating manual.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7300 LB/H
Emission Limit 2: 0.0370 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.7300 LB/H

Emission Limit 2: 0.0370 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0015 LB/MMBTU

Emission Limit 2: 0.0220 LB/H

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS
Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.0011 t/yr per rolling 12 month period.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 3.4000 X10-3 LB/H
Emission Limit 2: 1.7000 X10-4 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00023 lb/MMBtu

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 120.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) good operating practices (proper maintenance and operation)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturer's operating manual.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS: Exhaust opacity from CI RICE must not exceed: 20 percent during the acceleration mode; 15 percent during the lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

Process/Pollutant Information

PROCESS NAME: Emergency Fire Pump (P006)
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 410.00 HP
Process Notes: 410 HP emergency diesel-fired fire pump to provide on-site firefighting capabilities independent of the utility grid

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.7000 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 0.1400 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Nonmethane hydrocarbons plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 4.0 g/kW-hour (3.0 g/bhp-h), 2.70 pounds per hour and 0.14 ton per rolling, 12-month period.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 2.7000 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 0.1400 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Nonmethane hydrocarbons plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 4.0 g/kW-hour (3.0 g/bhp-h), 2.70 pounds per hour and 0.14 ton per rolling, 12-month period.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.3600 LB/H

Emission Limit 2: 0.1200 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1300 LB/H

Emission Limit 2: 0.0065 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1300 LB/H
Emission Limit 2: 0.0065 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: RACT
Other Applicable Requirements: NSPS
Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1300 LB/H
Emission Limit 2: 0.0065 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0015 LB/MMBTU
Emission Limit 2: 0.0053 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00027 T/YR per rolling, 12-month period

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0015 LB/MMBTU
Emission Limit 2: 8.1000 X10-4 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 4.1x10-5 T/YR per rolling, 12-month period

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 29.0000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good operating practices (proper maintenance and operation)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Fuel Gas Heaters (2 identical, P007 and P008)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 15.00 MMBTU/H

Process Notes: Two identical Fuel Gas Heaters; 15.0 MMBtu/hr natural gas-fired fuel gas heater with low-NOx burners. The natural gas heaters will heat a water bath.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.3000 LB/H

Emission Limit 2: 1.3100 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0200 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Low-NOx gas burner

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.8300 LB/H

Emission Limit 2: 3.6400 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0550 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0750 LB/H

Emission Limit 2: 0.3300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0050 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0750 LB/H

Emission Limit 2: 0.0330 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0050 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0750 LB/H

Emission Limit 2: 0.3300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0050 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0750 LB/H

Emission Limit 2: 0.0330 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0050 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0230 LB/H

Emission Limit 2: 0.1000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0015 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Pipeline natural gas fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0035 LB/H
Emission Limit 2: 0.0150 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.3000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline natural gas fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 7695.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Natural gas, low-emitting fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Combustion control
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Facility Information

RBLC ID:	OH-0372 (final)	**Date Determination Last Updated:**	06/19/2019
Corporate/Company Name:	OREGON ENERGY CENTER	**Permit Number:**	P0121049
Facility Name:	OREGON ENERGY CENTER	**Permit Date:**	09/27/2017 (actual)
Facility Contact:	WILLIAM SIDEREWICZ (617)501-7094 BILLS@PERPOWER.COM	**FRS Number:**	Not Found
Facility Description:	Combined cycle gas turbine (CCGT) facility	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	LUCAS		

Facility State: OH

Facility ZIP Code: 43616

Permit Issued By: OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name)
MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov

Permit Notes: Installation of natural gas-fired combined cycle combustion turbine power plant.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	275.1000 (Tons/Year)
Nitrogen Oxides (NOx)	241.3000 (Tons/Year)
Particulate Matter (PM)	135.0000 (Tons/Year)
Sulfur Oxides (SOx)	43.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	101.4000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B001)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 37.80 MMBTU/H

Process Notes: 37.8 mmBtu/hr natural gas fired auxiliary boiler with low- NOX burners and flue gas recirculation

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.0800 LB/H

Emission Limit 2: 2.0800 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0550 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion controls

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.7600 LB/H
Emission Limit 2: 0.7600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0200 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low NOX burners and flue gas recirculation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3000 LB/H
Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0080 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.3000 LB/H

Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0080 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0600 LB/H

Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 1.5000 X10-3 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0040 LB/H
Emission Limit 2: 0.0040 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 1.1500 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2300 LB/H
Emission Limit 2: 0.2300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0060 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 4502.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) use of natural gas, good combustion controls
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency generator (P003)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 1529.00 HP
Process Notes: 1,000 kWe (1,140 kW mechanical) emergency diesel-fired generator

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 8.8000 LB/H
Emission Limit 2: 2.2000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.6000 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 16.1000 LB/H
Emission Limit 2: 4.0200 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 4.8000 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 6.4 g/kW-hr (4.8 g/hp-hr). NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 6.4 g/kW-hr.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 2.0000 LB/H
Emission Limit 2: 0.5000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.5900 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.79 g/kW-hr (0.59 g/hp-hr). NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 6.4 g/kW-hr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5000 LB/H
Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5000 LB/H
Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0160 LB/H
Emission Limit 2: 4.0000 X10-3 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 3.3000 X10-4 LB/H
Emission Limit 2: 8.3000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 9.6000 X10-5 G/HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 1.32x10-4 g/kW-hr (9.6x10-5 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 445.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) state of the art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule. NSPS: Exhaust opacity shall not exceed: 20 percent during acceleration mode; 15 percent during lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

Process/Pollutant Information

PROCESS NAME: Emergency fire pump engine (P004)

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 300.00 HP

Process Notes: 300 hp emergency diesel-fired fire pump

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 1.7300 LB/H

Emission Limit 2: 0.4300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/B-HP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) state of the art combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 1.9700 LB/H

Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 3.0000 G/B-HP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) State-of-the-art combustion design

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 4.0 g/kW-hr (3.0 g/hp-hr). NSPS is Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/H
Emission Limit 2: 0.0200 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/H
Emission Limit 2: 0.0200 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS

Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2400 LB/H
Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.3700 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 0.5 g/kW-hr (0.37 g/hp-hr). NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 3.2000 X10-3 LB/H
Emission Limit 2: 1.0000 X10-3 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 6.5000 X10-5 LB/H
Emission Limit 2: 1.6000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 9.6000 X10-5 G/HP-HR SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 1.3x10-4 g/kW-hr (9.6x10-5 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 87.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Wet Cooling Tower (P005)
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel:
Throughput: 155083.00 GAL/M
Process Notes: 10-cell wet cooling tower equipped with a high efficiency drift eliminator

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.9300 LB/H
Emission Limit 2: 4.0700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3600 LB/H
Emission Limit 2: 1.5800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Combined Cycle Combustion Turbines (two, identical) (P001 and P002)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3055.00 MMBTU/H

Process Notes: Combined cycle combustion turbine (3,055 mmBtu/hr heat input turbine at ISO conditions and 221.3 mmBtu/hr heat input duct burner) with dry low NOX combustors, selective catalytic reduction (SCR), and catalytic oxidation. All heat values are on a HHV basis. Throughputs and limits are for single turbine except as noted.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 15.5000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 135.1900 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and good combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 15.5 lb/h with duct burner (except startup and shutdown). 14.6 lb/h without duct burner (except startup and shutdown). 135.19 t/yr per rolling 12 month period for all operating modes, including startup. 526 lb/h during cold startup, 436 lb/h during hot startup, 496 lb/h during warm startup, and 150 lb/h during shutdown.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 401921.0000 LB/H SEE NOTES.
Emission Limit 2: 1689461.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) high efficiency combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 833 lb/MW-hr (pounds per megawatt-hour) gross energy output (at full load ISO conditions without duct firing) and 401,921 lb/hr (maximum under any condition with duct firing). 1,689,461 t/yr per rolling 12 month period for all operating modes, including startup and shutdown.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 25.3000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 118.0200 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Dry low NOX combustors and selective catalytic reduction (SCR)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 25.3 lb/h with duct burner (except startup and shutdown). 23.8 lb/h without duct burner (except startup and shutdown). 118.02 t/yr per rolling 12 month period for all operating modes, including startup. 162 lb/h during cold startup, 78.7 lb/h during hot startup, 113 lb/h during warm startup, and 57.3 lb/h during shutdown.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 8.8000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 50.2800 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and good combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen, with duct burner. 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen, without duct burner. 8.8 lb/h with duct burner. 4.1 lb/h without duct burner. Each limit except startup and shutdown. 50.28 t/yr per rolling 12 month period for all operating modes, including startup. 64.4 lb/h during cold startup, 60.1 lb/h during hot startup, 59.6 lb/h during warm startup, and 62.8 lb/h during shutdown.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 5.1000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 21.4600 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 1.5x10-3 lb/mmbtu. 5.1 lb/h with duct burner (except startup and shutdown). 4.8 lb/h without duct burner (except startup and shutdown). 21.46 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: EPA/OAR Mthd 8

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 3.7000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 15.7700 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 1.1x10-3 lb/mmbtu. 3.7 lb/h with duct burner (except startup and shutdown). 3.5 lb/h without duct burner (except startup and shutdown). 15.77 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 15.4000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 65.2600 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	4.6x10-3 lb/mmbtu with duct burners. 6.0x10-3 lb/mmbtu without duct burners. 15.4 lb/h with duct burner (except startup and shutdown). 14.0 lb/h without duct burner (except startup and shutdown). 65.26 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME:	Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number:	PM
Test Method:	Other
Other Test Method:	Methods 201A and 202
Pollutant Group(s):	(Particulate Matter (PM))
Emission Limit 1:	15.4000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2:	65.2600 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission:	SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(P) good combustion practices and pipeline quality natural gas
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	4.6x10-3 lb/mmbtu with duct burners. 6.0x10-3 lb/mmbtu without duct burners. 15.4 lb/h with duct burner (except startup and shutdown). 14.0 lb/h without duct burner (except startup and shutdown). 65.26 t/yr per rolling 12 month period for all operating modes, including startup.

Facility Information

RBLC ID:	OH-0370 (final)	**Date Determination Last Updated:**	06/19/2019
Corporate/Company Name:	TRUMBULL ENERGY CENTER	**Permit Number:**	P0122331
Facility Name:	TRUMBULL ENERGY CENTER	**Permit Date:**	09/07/2017 (actual)
Facility Contact:	WILLIAM SIDEREWICZ (617)501-7094 BILLS@PERPOWER.COM	**FRS Number:**	Not Found
Facility Description:	940 MW combined cycle gas turbine (CCGT) facility	**SIC Code:**	4911

Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	TRUMBULL		
Facility State:	OH		
Facility ZIP Code:	44481		
Permit Issued By:	OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name) MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov		
Permit Notes:	Permit-to-install for the construction of the Trumbull Energy Center, a nominal 940 megawatt (MW) combined cycle gas turbine (CCGT) facility to be located in the Village of Lordstown, Ohio.		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	275.1000 (Tons/Year)
Nitrogen Oxides (NOx)	240.5000 (Tons/Year)
Particulate Matter (PM)	135.2000 (Tons/Year)
Sulfur Oxides (SOx)	42.1000 (Tons/Year)
Volatile Organic Compounds (VOC)	101.4000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	Auxiliary Boiler (B001)
Process Type:	13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel:	Natural gas
Throughput:	37.80 MMBTU/H
Process Notes:	Auxiliary Boiler 37.8 MMBtu/hr

POLLUTANT NAME:	Carbon Monoxide
CAS Number:	630-08-0
Test Method:	EPA/OAR Mthd 10
Pollutant Group(s):	(InOrganic Compounds)
Emission Limit 1:	2.0800 LB/H
Emission Limit 2:	2.0800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:	0.0550 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	

Control Method: (P) Good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.7600 LB/H
Emission Limit 2: 0.7600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0200 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Flue gas recirculation (FGR), low NOx burner
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3000 LB/H
Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0080 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3000 LB/H
Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0080 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2300 LB/H
Emission Limit 2: 0.2300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0060 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Other
Other Test Method: 40 CFR 60.4415
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0600 LB/H
Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 1.5000 X10-3 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0087 LB/H
Emission Limit 2: 0.0087 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.3000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 4456.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion controls/natural gas combustion
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Combined Cycle Combustion Turbines (two, identical) (P001 and P002)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3025.00 MMBTU/H

Process Notes: Two identical combined cycle combustion turbine (3,025 mmBtu/hr heat input turbine at ISO conditions and 237 mmBtu/hr heat input duct burner) with dry low NOx combustors, selective catalytic reduction (SCR), and catalytic oxidizer. Throughputs and limits are for single turbine except as noted.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion controls and low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 833.0000 LB/MW-H SEE NOTES.

Emission Limit 2: 1683213.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) High efficient combustion technology

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 833 lb/MW-hr gross energy output (at full load ISO conditions without duct firing). 884 lbs/ MW-hr gross energy output (maximum under any full load condition with duct firing). 401,084 lb/hr (maximum under any condition with duct firing). 1,683,213 T/YR per rolling 12 month period all operating modes, including startup and shutdown periods.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 15.5000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 135.2000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion controls and oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 15.5 lb/h with duct burner. 14.6 lb/h without duct burner. Each limit except startup and shutdown). 135.2 t/yr per rolling 12 month period for all operating modes, including startup and shutdown. 526.0 lb/h during cold startup, 436.0 lb/h during hot startup, 496.0 lb/h during warm startup, and 159.0 lb/h during shutdown.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 25.3000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 117.6000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) dry low NOx combustors (DLN) and selective catalytic reduction (SCR)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen, 25.3 lb/h with duct burner, 23.8 lb/h without duct burner (each limit except startup and shutdown). 117.6 t/yr per rolling 12 month period for all operating modes, including startup and shutdown. 162.0 lb/h during cold startup, 78.7 lb/h during hot startup, 113.0 lb/h during warm startup, and 72.7 lb/h during shutdown.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 8.8000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 50.3000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion controls and oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen with duct burner, 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen without duct burner, 8.8 lb/h with duct burner, 4.1 lb/h without duct burner (each limit except startup and shutdown). 50.3 t/yr per rolling 12 month period for all operating modes, including startup and shutdown. 64.4 lb/h during cold startup, 60.1 lb/h during hot startup, 59.6 lb/h during warm startup, and 67.9 lb/h during shutdown.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 5.1000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 21.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 1.5x10-3 lb/mmbtu, 5.1 lb/h with duct burner, 4.8 lb/h without duct burner (each limit except startup and shutdown). 21.0 t/yr per rolling 12 month period for all operating modes, including startup and shutdown.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: EPA/OAR Mthd 8

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 3.7000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 15.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 1.1x10-3 lb/mmbtu, 3.7 lb/h with duct burner, 3.5 lb/h without duct burner (each limit except startup and shutdown). 15.8 t/yr per rolling 12 month period for all operating modes, including startup and shutdown.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 15.2000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 64.4000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion controls and low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 4.6x10-3 lb/mmbtu with duct burners, 6.0x10-3 lb/mmbtu without duct burners, 15.2 lb/h with duct burner, 12.9 lb/h without duct burner (each limit except startup and shutdown). 64.4 t/yr per rolling 12 month period for all operating modes, including startup and shutdown.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 15.2000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 64.4000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion controls and low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 4.6x10-3 lb/mmbtu with duct burners, 6.0x10-3 lb/mmbtu without duct burners, 15.2 lb/h with duct burner, 12.9 lb/h without duct burner (each limit except startup and shutdown). 64.4 t/yr per rolling 12 month period for all operating modes, including startup and shutdown.

Process/Pollutant Information

PROCESS NAME: Emergency generator (P003)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 1529.00 HP

Process Notes: Emergency Generator 1000 kW (electrical), 1,140 kW (mechanical), 1,529 hp

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 8.8000 LB/H

Emission Limit 2: 2.2000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 3.5 g/kW-hr.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 16.0700 LB/H
Emission Limit 2: 4.0200 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 6.4 g/kW-hr. NSPS limit is Non-methane hydrocarbon (NMHC) + NOx emissions shall not exceed 6.4 g/kW-hr.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 2.0000 LB/H
Emission Limit 2: 0.5000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) State-of-the-art combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 0.79 g/kW-hr. Non-methane hydrocarbon (NMHC) + NOx emissions shall not exceed 6.4 g/kW-hr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.5000 LB/H

Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Ultra low sulfur diesel fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 0.20 g/kW-hr.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.5000 LB/H

Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.20 g/kW-hr.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0160 LB/H
Emission Limit 2: 4.0000 X10-3 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 3.3000 X10-4 LB/H

Emission Limit 2: 8.3000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 1.32x10-04 g/kW-hr.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 445.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Efficient design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Ultra low sulfur diesel fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: SIP: 20 percent opacity as a 6-minute average, except as specified by rule. NSPS: Exhaust opacity shall not exceed: 20 percent during acceleration mode; 15 percent during lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

Process/Pollutant Information

PROCESS NAME: Emergency fire pump engine (P004)

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 300.00 HP

Process Notes: Emergency Fire Pump 300 hp (224 kW mechanical)

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 1.7300 LB/H

Emission Limit 2: 0.4300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) State-of-the-art combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 3.5 g/kW-hr.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 1.9700 LB/H
Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 4.0 g/kW-hr. NSPS: Non-methane hydrocarbon (NMHC) + NOx emissions shall not exceed 4.0 g/kW-hr.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2400 LB/H
Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.5 g/kW-hr. NSPS: Non-methane hydrocarbon (NMHC) + NOx emissions shall not exceed 4.0 g/kW-hr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/H
Emission Limit 2: 0.0300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.20 g/kW-hr.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/H
Emission Limit 2: 0.0300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.20 g/kW-hr.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 3.2000 X10-3 LB/H
Emission Limit 2: 1.0000 X10-3 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 6.5000 X10-5 LB/H
Emission Limit 2: 1.6000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 1.32x10-04 g/kW-hr.

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 87.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Efficient design

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Wet Cooling Tower (P005)
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel:
Throughput: 155083.00 GAL/M
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.3600 LB/H
Emission Limit 2: 5.9500 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5400 LB/H
Emission Limit 2: 2.3800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Facility Information

RBLC ID:	AK-0084 (final)	**Date Determination Last Updated:**	04/16/2020
Corporate/Company Name:	DONLIN GOLD LLC.	**Permit Number:**	AQ0934CPT01
Facility Name:	DONLIN GOLD PROJECT	**Permit Date:**	06/30/2017 (actual)
Facility Contact:	STAN FOO 907-273-0200 SFOO@DONLINGOLD.COM	**FRS Number:**	Not Found
Facility Description:	The Donlin Gold Project is a gold mine located 12 miles north of Crooked Creek, Alaska on the Kuskokwim River, about 280 miles northwest of Anchorage. The deposit has proven and probable reserves estimated at 33.9 million ounces of gold at 2.1 g/t and could produce up to 1.5 million ounces annually. SIC Code 1041; NAICS Code 212221.	**SIC Code:**	1041
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	212221
Permit URL:	http://dec.alaska.gov/Applications/Air/airtoolsweb/Home/ViewAttachment/16763360/d1h2U6BIY-j857LFU-WYmw2		
EPA Region:	10	**COUNTRY:**	USA
Facility County:	BETHEL CENSUS AREA		
Facility State:	AK		
Facility ZIP Code:	99575		
Permit Issued By:	ALASKA DEPT OF ENVIRONMENTAL CONS (Agency Name) MR. JIM PLOSAY(Agency Contact) (907) 465-5103 JOHN.KUTERBACH@ALASKA.GOV		
Other Agency Contact Info:	AK DEC DIV. OF AIR QUALITY 410 WILLOUGHBY AVE. SUITE 303 JUNEAU, AK 99801		
Permit Notes:			

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	AK	Denali NP	> 250 km
CLASS1	AK	Tuxedni	> 250 km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	3177.0000 (Tons/Year)
Nitrogen Oxides (NOx)	1282.0000 (Tons/Year)
Particulate Matter (PM)	5256.0000 (Tons/Year)
Sulfur Oxides (SOx)	26.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	1168.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Twelve (12) Large ULSD/Natural Gas-Fired Internal Combustion Engines

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel and Natural Gas

Throughput: 143.50 MMBtu/hr

Process Notes: Twelve 17-MW Wartsila 18V50DF ULSD/Natural Gas-Fired Internal Combustion Engines. Each engine rated at: 143.5 MMBtu/hr on ULSD 141.4 MMBtu/hr on natural gas

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.1800 G/KW-HR (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.1200 G/KW-HR (NATURAL GAS 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Oxidation Catalyst and Maintain Good Combustion Practices
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential CO emissions of 29.2 tpy for each engine (EU 1-12).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1299630.0000 TPY (ULSD)
Emission Limit 2: 869621.0000 TPY (NATURAL GAS)
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Good Cumbustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2100 G/KW-HR (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0900 G/KW-HR (NATURAL GAS 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Oxidation Catalyst and Good Combustion Practices
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential VOC emissions of 94.0 tpy for each engine (EU 1-12).

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2900 G/KW-HR (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.1300 G/KW-HR (NATURAL GAS 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Potential particulate matter emissions of 47.0 tpy for each engine (EU 1-12).

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/KW-HR (ULSD)
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Potential particulate matter emissions of 47.0 tpy for each engine (EU 1-12).

POLLUTANT NAME: Particulate matter, total < 10 μ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2900 G/KW-HR (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.1300 G/KW-HR (NATURAL GAS 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Potential particulate matter emissions of 47.0 tpy for each engine (EU 1-12).

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/KW-HR (ULSD) 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Potential particulate matter emissions of 47.0 tpy for each engine (EU 1-12).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2900 G/KW-HR (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.1300 G/KW-HR (NATURAL GAS 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Potential particulate matter emissions of 47.0 tpy for each engine (EU 1-12).

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/KW-HR (ULSD) 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Potential particulate matter emissions of 47.0 tpy for each engine (EU 1-12).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.5300 G/KW-HR (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0800 G/KW-HR (NATURAL GAS 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (B) Selective Catalytic Reduction (SCR) and Good Combustion Practices
Est. % Efficiency: 95.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential NOx emissions of 85.9 tpy for each engine (EU 1-12).

Process/Pollutant Information

PROCESS NAME: Ore Crushing and Transfers (Enclosures)
Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))
Primary Fuel:
Throughput: 5100.00 tph
Process Notes: Process includes one (1) gyratory crusher's dump pocket rated at 5,100 tph, two (2) conveyors with a rating of 5,100 tph, one (1) conveyor with a rating of 3,303 tph, and one (1) conveyor with a rating of 660 tph.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0005 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Enclosures
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0005 LB/TON 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Enclosures

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0005 LB/TON 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Enclosures

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Ore Crushing and Transfers (Dust Collector)

Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))

Primary Fuel:

Throughput: 5100.00 tph

Process Notes: One (1) gyrating crusher circuit (crusher, dust collector, surge pocket, and apron feeder) rated at 5,100 tph, four (4) apron feeders rated at 3,303 tph combined, and two (2) pebble crushers rated at 660 tph combined.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0100 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 95.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0100 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 95.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0100 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 95.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Autoclaves, Two (2) for Processing Gold
Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))
Primary Fuel:
Throughput: 210.00 tph

Process Notes: Two (2) autoclaves each rated at 210 tph. Autoclaves will operate in parallel. Autoclaves will be used for the oxidation of gold-bearing sulfide minerals to metal sulfates using a combination of heat, acid, and oxygen sparging.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 88.0000 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2200 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Venturi Scrubber
Est. % Efficiency: 85.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: Percent efficiency of venturi scrubber listed as 70-99% control (85% average was entered into cell). For emissions rate, a 10x factor of safety was used.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2200 LB/HR 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Venturi Scrubber

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Percent efficiency of venturi scrubber listed as 70-99% control (85% average was entered into cell). For emissions rate, a 10x factor of safety was used.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2200 LB/HR 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Venturi scrubber

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Percent efficiency of venturi scrubber listed as 70-99% control (85% average was entered into cell). For emissions rate, a 10x factor of safety was used.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0400 LB/HR 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Activated Carbon Adsorption

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 67659.0000 TPY (ULSD)

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good Operating Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Boilers and Heaters (natural gas and diesel fired)

Process Type: 13.900 (Other Fuels and Combinations (¿100 million BTU/H)(e.g., solid/liquid, liquid/gas))

Primary Fuel: Natural Gas and Diesel

Throughput: 29.29 MMBtu/hr

Process Notes: Two (2) natural gas and diesel fired 29.29 MMBtu/hr process heaters, one (1) natural gas and diesel fired 20.66 MMBtu/hr boiler, one (1) natural gas and diesel fired 16 MMBtu/hr heater, one (1) natural gas fired 2 MMBtu/hr SO2 burner, one (1) diesel fired 2 MMBtu/hr SO2 burner, one hundred and 38 (138) natural gas fired building heaters, seven (7) natural gas fired 2.5 MMBtu/hr air handler heaters, and twenty (20) diesel fired portable heaters.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0384 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0824 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.1540 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0980 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0254 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0075 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0254 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0075 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0254 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0075 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC

Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0015 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0054 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 176347.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 176,347 tpy CO2e is total for EUs 15-26 combined.

Process/Pollutant Information

PROCESS NAME: Two (2) Heaters (natural gas and diesel fired)

Process Type: 13.900 (Other Fuels and Combinations (¿100 million BTU/H)(e.g., solid/liquid, liquid/gas))

Primary Fuel: Natural Gas

Throughput: 16.50 MMBtu/hr

Process Notes: Two (2) 16.5 MMBtu/hr heaters (natural gas and diesel fired).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0384 LB/MMBTU (ULSD) 3-HOUR AVERAGE

Emission Limit 2: 0.0824 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.1540 LB/MMBTU (ULSD) 3-HOUR AVERAGE

Emission Limit 2: 0.0490 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Low-NOx Burners

Est. % Efficiency: 60.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 176347.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 176,347 tpy CO2e for EUs 15 - 26 combined

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0015 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0054 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0254 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0075 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0254 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0075 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0254 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0075 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Black Start and Emergency Internal Cumbustion Engines
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 1500.00 kWe
Process Notes: Two (2) 600 kWe black start diesel generators and four (4) 1,500 kWe emergency diesel generators.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 8.0000 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 8.0 g/kW-hr includes NOx and VOC emissions. NSPS Subpart IIII engines.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 4.3800 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII engines

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 2781.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 2,781 tpy CO2e for EUs 29 - 34 combined. NSPS Subpart IIII engines

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2500 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII engines

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2500 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII engines

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2500 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII engines

Process/Pollutant Information

PROCESS NAME: Fire Pump Diesel Internal Combustion Engines

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel

Throughput: 252.00 hp

Process Notes: Three (3) 252 hp fire pump diesel internal combustion engines.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.7000 G/KW-HR 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 83.70 g/kW-hr includes NOx and VOC emissions. NSPS Subpart IIII engines.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 216.0000 TPY (COMBINED) YEARLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 216 tpy CO2e for EUs 35 - 37 combined. NSPS Subpart IIII engines

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.3000 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII engines

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1900 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII engines

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1900 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII engines

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1900 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII engines

Process/Pollutant Information

PROCESS NAME: Carbon Regeneration Kiln
Process Type: 49.999 (Other Organic Evaporative Loss Sources)
Primary Fuel: Electricity
Throughput: 1.65 tph of carbon
Process Notes: Carbon regeneration kiln heats with electricity activated carbon to reactivate the carbon for reuse in the process.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.8800 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0200 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.4400 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4400 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet Off-Gas Cooler
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Wet Off-Gas Cooler uses a solution to remove particulate matter from exhaust stream.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4400 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet Off-Gas Cooler
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Wet Off-Gas Cooler uses a solution to remove particulate matter from exhaust stream.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4400 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet Off-Gas Cooler
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Wet Off-Gas Cooler uses a solution to remove particulate matter from exhaust stream.

Process/Pollutant Information

PROCESS NAME: Induction Smelting Furnace
Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))
Primary Fuel: electricity
Throughput: 0
Process Notes: Induction Smelting Furnace related to gold processing.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Pressure Oxidation Hot Cure
Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))
Primary Fuel:
Throughput: 0
Process Notes: Oxidized ore concentrate slurry from autoclaves will enter three pressure oxidation hot cure tanks (EUs 85-87). This process will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4000 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emissions of 1.75 tpy particulate matter for each of EUs 85 - 87.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4000 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emissions of 1.75 tpy particulate matter for each of EUs 85 - 87.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emissions of 1.75 tpy particulate matter for each of EUs 85 - 87.

Process/Pollutant Information

PROCESS NAME: Electrowinning Cells

Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))

Primary Fuel: Electricity

Throughput: 211.00 gpm

Process Notes: Electrowinning cells (EUs 91-94) are where precious metals are precipitated out of a precious metal bearing solution through electrolysis. This process will emit particulate.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1900 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.8 tpy of particulates combined from EUs 91-94.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1900 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.8 tpy of particulates combined from EUs 91-94.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1900 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.8 tpy of particulates combined from EUs 91-94.

Process/Pollutant Information

PROCESS NAME: Mercury Retort
Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))
Primary Fuel: Electricity
Throughput: 0
Process Notes: The mercury retort (EU ID 97) is where the precious metal bearing sludge recovered from EUs 91 - 94 (electrowining cells) will be heated to recover mercury before being smelted in EU ID 100. The retort will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Mercury Retort will have 0.1 tpy of particulate emissions.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Mercury Retort will have 0.1 tpy of particulate emissions.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Mercury Retort will have 0.1 tpy of particulate emissions.

Process/Pollutant Information

PROCESS NAME: Sample Receiving and Preparation Laboratory
Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))
Primary Fuel:
Throughput: 3575.00 lb/day
Process Notes: The sample receiving and preparation laboratory includes (EU IDs 103 and 104). EU IDs 104 will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0090 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Total particulate emissions from prep lab (EUs 103 and 104) equals 2 tpy.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0090 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Total particulate emissions from prep lab (EUs 103 and 104) equals 2 tpy.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0090 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Total particulate emissions from prep lab (EUs 103 and 104) equals 2 tpy.

Process/Pollutant Information

PROCESS NAME: Assay Laboratory
Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))
Primary Fuel:
Throughput: 3575.00 lb/day
Process Notes: Assay Laboratory for gold production will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0040 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Total particulate emissions from assay lab (EU 106) equals 4.1 tpy.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0040 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Total particulate emissions from assay lab (EU 106) equals 4.1 tpy.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0040 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Total particulate emissions from assay lab (EU 106) equals 4.1 tpy.

Process/Pollutant Information

PROCESS NAME: Metallurgical Laboratory

Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))

Primary Fuel:

Throughput: 3575.00 lb/day

Process Notes: The metallurgical laboratory includes EUs 108 and 109. EU 109 will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0090 GR/DSCF 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Dust Collector

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Total particulate emissions from metallurgical lab (EUs 108 and 109) equals 2 tpy.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0090 GR/DSCF 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Dust Collector

Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Total particulate emissions from metallurgical lab (EUs 108 and 109) equals 2 tpy.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Total particulate emissions from metallurgical lab (EUs 108 and 109) equals 2 tpy.

Process/Pollutant Information

PROCESS NAME: Reagent Handling for Water Treatment
Process Type: 90.019 (Lime/Limestone Handling/Kilns/Storage/Manufacturing)
Primary Fuel:
Throughput: 1500.00 scfm
Process Notes: Water conditioning circuit (EU 111) with the water treatment plant will emit particulates through the transfer of water conditioning reagents.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 1.13 tpy of particulate emissions.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 1.13 tpy of particulate emissions.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 1.13 tpy of particulate emissions.

Process/Pollutant Information

PROCESS NAME: Mill Reagents Handling
Process Type: 90.019 (Lime/Limestone Handling/Kilns/Storage/Manufacturing)
Primary Fuel:
Throughput: 3002.00 ACFM
Process Notes: The mill reagents handling will include lime handling and slaking (EU IDs 59 and 61), flocculant handling and mixing (EU ID 65), caustic soda handling and mixing (EU ID 67), copper sulfate handling and mixing (EU ID 69), xanthate (PAX) handling and mixing (EU ID 71), and soda ash handling and mixing (EU IDs 73 and 75). The mill reagents handling will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Particulate emissions from this list of EUs range from 0.6 tpy for flocculant handling and mixing (EU 65) to 2.3 tpy for both copper sulfate handling and mixing (EU 69) and xanthate (PAX) handling and mixing (EU 71).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Particulate emissions from this list of EUs range from 0.6 tpy for flocculant handling and mixing (EU 65) to 2.3 tpy for both copper sulfate handling and mixing (EU 69) and xanthate (PAX) handling and mixing (EU 71).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Particulate emissions from this list of EUs range from 0.6 tpy for flocculant handling and mixing (EU 65) to 2.3 tpy for both copper sulfate handling and mixing (EU 69) and xanthate (PAX) handling and mixing (EU 71).

Process/Pollutant Information

PROCESS NAME: Mill Reagents Handling
Process Type: 90.019 (Lime/Limestone Handling/Kilns/Storage/Manufacturing)
Primary Fuel:
Throughput: 628.00 ACFM
Process Notes: The mill reagents handling will include lime handling and slaking (EU 63). The mill reagents handling will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet Scrubber
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Particulate emissions of 0.5 tpy.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Wet Scrubber

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Particulate emissions of 0.5 tpy.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Wet Scrubber

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Particulate emissions of 0.5 tpy.

Process/Pollutant Information

PROCESS NAME: Fuel Tanks

Process Type: 42.005 (Petroleum Liquid Storage in Fixed Roof Tanks)

Primary Fuel: Diesel

Throughput: 0

Process Notes: Multiple fuel tanks, the largest of which are EUs 126 - 140 with capacities of 2.5 million gallons each. These tanks will emit VOCs.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 1.7000 TPY YEARLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Submerged Fill

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: VOC emissions of 1.7 tpy for all fuel tanks EUs 126 through 157.

Process/Pollutant Information

PROCESS NAME: Incinerator (Camp Waste)

Process Type: 21.400 (Municipal Waste Combustion)

Primary Fuel:

Throughput: 990.00 lb/hr

Process Notes: EU 27

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 13.0000 PPMVD AT 7% 02 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Camp Waste Incinerator has CO PTE of 0.03 tpy.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 170.0000 PPMVD AT 7% 02 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Camp Waste Incinerator has NOx PTE of 0.7 tpy.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 270.0000 MG/DSCM AT 7% O2 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Camp Waste Incinerator has particulate matter PTE of 4.79 tpy.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 270.0000 MG/DSCM AT 7% O2 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Camp Waste Incinerator has particulate matter PTE of 4.79 tpy.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 270.0000 MG/DSCM AT 7% O2 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Camp Waste Incinerator has particulate matter PTE of 4.79 tpy.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 3934.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Camp Waste Incinerator (EU 27) and Sewage Sludge Incinerator (EU 28) have combined GHG PTE of 3,934 tpy.

Process/Pollutant Information

PROCESS NAME: Incinerator (Sewage Sludge)

Process Type: 21.500 (Wastewater Treatment Sludge Incineration)

Primary Fuel:

Throughput: 0.06 ton/day

Process Notes: EU 28

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 3934.0000 TPY YEARLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Camp Waste Incinerator (EU 27) and Sewage Sludge Incinerator (EU 28) have combined GHG PTE of 3,934 tpy.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 52.0000 PPMVD AT 7% 02 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential CO emissions from Sewage Sludge Incinerator (EU 28) of 0.01 tpy.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 210.0000 PPMVD AT 7% 02 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential NOx emissions from Sewage Sludge Incinerator (EU 28) of 0.1 tpy.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 60.0000 MG/DSCM AT 7% O2 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential particulate matter emissions from Sewage Sludge Incinerator (EU 28) of 0.01 tpy.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 60.0000 MG/DSCM AT 7% O2 3
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential particulate matter emissions from Sewage Sludge Incinerator (EU 28) of 0.01 tpy.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 60.0000 MG/DSCM AT 7% O2 3
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential particulate matter emissions from Sewage Sludge Incinerator (EU 28) of 0.01 tpy.

Process/Pollutant Information

PROCESS NAME: Acidulation and Neutralization Tanks
Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))
Primary Fuel:
Throughput: 0
Process Notes: GHG emissions from the acidulation tanks (EU ID 124) and the neutralization tanks (EU ID 125).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 273175.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential GHG emissions from acidulation tanks (EU 124) and neutralization tanks (EU 125) combined of 273,175 tpy.

Process/Pollutant Information

PROCESS NAME: Fugitive Dust from Unpaved Roads

Process Type: 99.150 (Unpaved Roads)

Primary Fuel:

Throughput: 5024900.00 VMT/yr

Process Notes: Access road mine to campsite (EU 158) has a rating of 101,367 vehicle miles traveled per year (VMT/yr), access road airport to camp has a rating of 60,173 VMT/yr, and haul road has a rating of 791,227 - 5,024,900 VMT/yr.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 3500.0000 TPY YEARLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Water and Chemical Suppressant Spray

Est. % Efficiency: 90.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Potential combined emissions for access road mine to campsite (EU 158), access road airport to camp, and haul road: total particulate matter = 3,500 tpy PM-10 = 800 tpy PM-2.5 = 80 tpy

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 3500.0000 TPY YEARLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Water and Chemical Suppressant Spray

Est. % Efficiency: 90.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Potential combined emissions for access road mine to campsite (EU 158), access road airport to camp, and haul road: total particulate matter = 3,500 tpy PM-10 = 800 tpy PM-2.5 = 80 tpy

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 3500.0000 TPY YEARLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Water and Chemical Suppressant Spray

Est. % Efficiency: 90.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Potential combined emissions for access road mine to campsite (EU 158), access road airport to camp, and haul road: total particulate matter = 3,500 tpy PM-10 = 800 tpy PM-2.5 = 80 tpy

Process/Pollutant Information

PROCESS NAME: Material Loading and Unloading

Process Type: 99.190 (Other Fugitive Dust Sources)

Primary Fuel:

Throughput: 155123914.00 tpy

Process Notes: Fugitive emissions from material loading and unloading (EU IDs 115 - 120). The material loading and unloading will emit particulates. Waste Unloading and Reloading (EU 120) has the largest throughput with a rating of 155,123,914 tpy.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 530.0000 TPY (COMBINED) YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Best Practical Methods/Fugitive Dust Control Plan (includes water spray)
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential emissions for total particulates from EUs 115 - 120 combined equals 530 tpy.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 530.0000 TPY (COMBINED) YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Best Practical Methods and Fugitive Dust Control Plan (to include water spray)

Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential emissions for total particulates from EUs 115 - 120 combined equals 530 tpy.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 530.0000 TPY (COMBINED) YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Best Practical Methods/Fugitive Dust Control Plan (includes water spray)
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential emissions for total particulates from EUs 115 - 120 combined equals 530 tpy.

Process/Pollutant Information

PROCESS NAME: Drilling and Blasting
Process Type: 99.190 (Other Fugitive Dust Sources)
Primary Fuel:
Throughput: 620.00 blasts/yr
Process Notes: Fugitive emissions from drilling (EU ID 113, rating of 141,512 holes/yr) and blasting (EU ID 114, rating of 620 blasts/yr). The drilling will emit particulates, and the blasting will emit CO, NOx, particulates, and GHG.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 1900.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential emissions for CO of 1,900 tpy are specific to blasting (EU 114).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 50.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential emissions for NOx of 50 tpy are specific to blasting (EU 114).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 11800.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential emissions for GHG of 11,800 tpy are specific to blasting (EU 114).

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 273.0000 TPY (COMBINED) YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Best Practical Methods
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential emissions for particulate matter of 273 tpy are for drilling (EU 113) and blasting (EU 114) combined.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 273.0000 TPY (COMBINED) YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Best Practical Methods
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential emissions for particulate matter of 273 tpy are for drilling (EU 113) and blasting (EU 114) combined.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 273.0000 TPY (COMBINED) YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Best Practical Methods
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential emissions for particulate matter of 273 tpy are for drilling (EU 113) and blasting (EU 114) combined.

Process/Pollutant Information

PROCESS NAME: Fugitive Dust from Wind Erosion

Process Type: 99.190 (Other Fugitive Dust Sources)

Primary Fuel:

Throughput: 0

Process Notes: Exposed and active mining areas can be a source of fugitive emissions due to wind erosion. The wind erosion will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 32.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Best Practical Methods / Fugitive Dust Control Plan (includes applying water)
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 32.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (B) Best Practical Methods / Fugitive Dust Control Plan (includes water suppression)
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 32.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Best Practical Methods / Fugitive Dust Control Plan (includes water suppression)
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Facility Information

RBLC ID:	MI-0425 (final)	**Date Determination Last Updated:**	11/15/2017
Corporate/Company Name:	ARAUCO NORTH AMERICA	**Permit Number:**	59-16A
Facility Name:	GRAYLING PARTICLEBOARD	**Permit Date:**	05/09/2017 (actual)
Facility Contact:	RICH WEBER 803-431-2046 RICH.WEBER@ARAUCO-NA.COM	**FRS Number:**	Not Found
Facility Description:	Particleboard manufacturing.	**SIC Code:**	2493
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	321219
Permit URL:			

EPA Region:	5	**COUNTRY:**	USA
Facility County:	CRAWFORD		
Facility State:	MI		
Facility ZIP Code:	49738		
Permit Issued By:	MICHIGAN DEPT OF ENVIRONMENTAL QUALITY (Agency Name) MS. CINDY SMITH(Agency Contact) (517)284-6802 SMITHC17@MICHIGAN.GOV		
Other Agency Contact Info:	Please contact the permit engineer, Mr. Andrew Drury, at 517-284-6792 or at drurya@michigan.gov for technical questions regarding this permit. Thank you.		
Permit Notes:			

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	MI	Seney	100km - 50km
INTL BORDER		US/Canada Border	100km - 50km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	211.3300 (Tons/Year)
Nitrogen Oxides (NOx)	452.5700 (Tons/Year)
Particulate Matter (PM)	214.1300 (Tons/Year)
Sulfur Oxides (SOx)	12.9900 (Tons/Year)
Volatile Organic Compounds (VOC)	400.7200 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: EU-FLAKERS (7 Green flakers with baghouse, dry ESP and RTO Control)

Process Type: 30.590 (Miscellaneous Particle & Strand Board Operations)

Primary Fuel:

Throughput: 0

Process Notes: Seven green flakers with emissions controlled by a baghouse (BH04) as well as the thermal energy plant ESP and dryer RTO while the dryer is operating (DESP1 and RTO1). The total hours of operation shall not exceed 460 hours per 12-month rolling time period when emissions are not controlled by DESP1 and RTO1. The baghouse must be in use at all times.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 76.0000 LB/H DURING BYPASS OF RTO1&DESP1

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) RTO for VOC as well as baghouse and dry ESP. Bypass of RTO is allowed for up to 460 hours per year.

Est. % Efficiency: 90.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit above is 76 lb/hr during bypass of RTO1 and DESP1 which is limited to 460 hours per year. The flakers are allowed to operate for up to 460 hours per year while bypassing the ESP and the RTO. The baghouse will be in use at all times. The RTO is 95% efficient. The 90% control efficiency considers the 460 hours of uncontrolled operation and the use of the RTO for 8300 hours per year. Emissions from the flakers through the RTO are not separately limited; there is a VOC limit for the RTO that addresses all processes that it controls.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.0100 LB/H DURING BYPASS OF RTO1&DESP1.

Emission Limit 2: 0.0020 GR/DSCF DURING RTO BYPASS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Baghouse, dry ESP, RTO. Bypass of dry ESP and RTO is allowed for up to 460 hours per year.

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Little or no condensable particulate is expected to be emitted from the flakers because they operate at ambient temperature. PM, PM10, and PM2.5 BACT was determined to be a fabric filter baghouse with a PM emission limit of 0.002 gr/dscf and PM, PM10, and PM2.5 emission limits of 1.01 lb/hr per pollutant during bypass of the RTO. The flaker baghouse exhaust would be routed to the dryer RTO for all but 460 hours per year. Emissions from the flakers through the RTO are not separately limited; there are limits for the dry ESP and RTO that address all processes they control. Baghouse efficiency is 99%. Dry ESP and RTO efficiency not addressed here.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.0100 LB/H DURING BYPASS OF RTO1&DESP1.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Baghouse, dry ESP, RTO. Bypass of dry ESP and RTO is allowed for up to 460 hours per year.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit is 1.01 lb/hr during bypass of RTO1 & DESP1 which is limited to 460 hours per year. Little or no condensable particulate is expected to be emitted from the flakers because they operate at ambient temperature. PM, PM10 and PM2.5 BACT was determined to be a fabric filter baghouse with a PM emission limit of 0.002 gr/dscf and PM, PM10, and PM2.5 emission limits of 1.01 lb/hr per pollutant during bypass of the RTO. The flaker baghouse exhaust would be routed to the dryer RTO for all but 460 hours per year. Emissions from the flakers through the RTO are not separately limited; there are limits for the dry ESP and RTO that address all processes they control. Baghouse efficiency is 99%. Dry ESP and RTO efficiency not addressed here.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.0100 LB/H DURING BYPASS OF RTO1&DESP1.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Baghouse, dry ESP and RTO. Bypass of dry ESP and RTO is allowed up to 460 hours per year.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit is 1.01 lb/hr during bypass of RTO1&DESP1 which is limited to 460 hours per year. Little or no condensable particulate is expected to be emitted from the flakers because they operate at ambient temperature. PM, PM10 and PM2.5 BACT was determined to be a fabric filter baghouse with a PM emission limit of 0.002 gr/dscf and PM, PM10, and PM2.5 emission limits of 1.01 lb/hr per pollutant during bypass of the RTO. The flaker baghouse exhaust would be routed to the dryer RTO for all but 460 hours per year. Emissions from the flakers through the RTO are not separately limited; there are limits for the dry ESP and RTO that address all processes they control. Baghouse efficiency is 995. Dry ESP and RTO efficiency not addressed here.

Process/Pollutant Information

PROCESS NAME: FGDRYERRTO (2 Natural Gas Fired Rotary Dryers

Process Type: 30.530 (Board Mfg. Dryers)

Primary Fuel: Natural gas

Throughput: 139.90 MMBTU/H

Process Notes: 2 natural gas fired rotary dryers identified as EUDRYER1 and EUDRYER2 in the flexible group FGDRYERRTO. The maximum design heat input capacity for each dryer burner shall not exceed 139.9 MMBTU/H per dryer. The maximum design heat input capacity for RTO1 shall not exceed a maximum of 25 MMBTU per hour. The dryers and RTO1 are equipped with low NOx burners. The dryers also have product recovery cyclones that are not considered to be pollution control equipment.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 36.3000 LB/H TEST PROTOCOL SHALL SPECIFY AVG TIME.

Emission Limit 2: 0.4300 LB/TON OVEN DRIED

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and RTO1.

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit applies to the total emissions from all of the processes exhausted through the RTO. The second emission limit is 0.43 lb/oven dried ton.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 95.0000 LB/H TEST PROTOCOL SHALL SPECIFY AVG TIME.

Emission Limit 2: 1.1000 LB/TON OVEN DRIED

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and low NOx burners

Est. % Efficiency: 50.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The second emission limit is 1.1 lb/oven dried ton. SNCR and low NOx burners were determined to be technically feasible add-on control technologies. However, SNCR applied to just the thermal energy plant would not be effective. Any reagent (ammonia or urea) and some of the nitrogen produced by the SNCR would be oxidized to NOx in the RTO used to comply with 40 CFR 63 Subpart DDDD. Therefore, SNCR is not feasible for the thermal energy plant exhaust. In addition, the RTO exhaust temperature is 200 to 300 deg. F, well below the 1,550 to 1,950 deg F required for SNCR to operate. SNCR is not technically feasible for the RTO exhaust. This emission limit applies to the total emissions from all of the processes exhausted through the RTO.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 29.1000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and RTO.

Est. % Efficiency: 70.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO, except for the 460 hours per year the flakers are allowed to bypass the RTO. Oxidation control efficiency estimated to be 70% to 90%.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 28.4000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Good combustion practices and RTO.

Est. % Efficiency: 70.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO except for the 460 hours per year the flakers are allowed to bypass the RTO. Oxidation control efficiency estimated to be 70% to 90%.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 16.5500 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Good combustion practices and RTO.
Est. % Efficiency: 70.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO, except for the 460 hours per year the flakers are allowed to bypass the RTO. Oxidation control efficiency estimated to be 70% to 90%.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 7.1000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Good combustion practices and RTO.
Est. % Efficiency: 95.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO, except for the 460 hours per year the flakers are allowed to bypass the RTO.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e

Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 205655.0000 TON/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good operating and maintenance practices, natural gas only.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limit is 205,655 tons/year based on a 12-month rolling time period as determined at the end of each calendar month. This emission limit applies to the total emissions from all of the processes exhausted through the RTO. Control cost for carbon capture and sequestration determined to be $102 per ton, which is not cost effective. This cost is based on controlling the total GHG emissions from the facility.

Process/Pollutant Information

PROCESS NAME: EUENERGY in FGDRYERRTO (Thermal Energy Plant)
Process Type: 12.120 (Biomass (includes wood, wood waste, bagasse, and other biomass))
Primary Fuel: Wood derived fuel and biomass
Throughput: 110.00 MMBTU/H
Process Notes: One thermal energy plant that combusts wood-derived fuel, clean cellulosic biomass, and natural gas. Natural gas is primarily used for startup. Exhaust from the flakers is used to condition the Thermal Energy Plant exhaust for proper operation of the dry ESP. The heat generated in the Thermal Energy Plant is used in the flake dryers and exhausted into the RTO.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 36.3000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME
Emission Limit 2: 0.4300 LB/TON OVEN DRIED TEST PROTOCOL WILL SPECIFY AVG TIME
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Good combustion practices and RTO1.
Est. % Efficiency: 80.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 95.0000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME
Emission Limit 2: 1.1000 LB/TON OVEN DRIED TEST PROTOCOL WILL SPECIFY AVG TIME
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Good combustion practices and low NOx burners
Est. % Efficiency: 50.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The second emission limit is 1.1 lb/oven dried ton. SNCR and low NOx burners were determined to be technically feasible add-on control technologies. However, SNCR applied to just the thermal energy plant would not be effective. Any reagent (ammonia or urea) and some of the nitrogen produced by the SNCR would be oxidized to NOx in the RTO used to comply with 40 CFR 63 Subpart DDDD. Therefore, SNCR is not feasible for the thermal energy plant exhaust. In addition, the RTO exhaust temperature is 200 to 300 deg. F, well below the 1550 to 1950 deg. F required for SNCR to operate. SNCR is not technically feasible for the RTO exhaust. This emission limit applies to the total emissions from all of the processes exhausted through the RTO.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 29.1000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Good combustion practices, dry ESP, RTO.
Est. % Efficiency: 70.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO except for the 460 hours per year the flakers are allowed to bypass the RTO. Oxidation control efficiency estimated to be 70% to 90%.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 28.4000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Good combustion practices, dry ESP, RTO.
Est. % Efficiency: 70.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO, except for the 460 hours per year the flakers are allowed to bypass the RTO. Oxidation control efficiency estimated to be 70% to 90%.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 16.5500 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Good combustion practices, dry ESP and RTO.

Est. % Efficiency: 70.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO, except for the 460 hours per year the flakers are allowed to bypass the RTO. Oxidation control efficiency estimated to be 70% to 90%.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 7.1000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and RTO.

Est. % Efficiency: 95.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO, except for the emissions due to the 460 hours per year the flakers are allowed to bypass the RTO.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 205655.0000 T/YR 12-MO ROLLING TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good operating and maintenance practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO. Control cost for carbon capture and sequestration determined to be $102 per ton, which is not cost effective. This cost is based on controlling the total GHG emissions from the facility.

Process/Pollutant Information

PROCESS NAME: FGMTRLHNDL (3 Overs mills EUOVERS1, EUOVERS2, EUOVERS3 in FGMTRLHNDL)

Process Type: 30.510 (Board Mfg, Material Handling. (e.g. unloading, storage & distribution))

Primary Fuel:

Throughput: 0

Process Notes: Three overs mills within the flexible group FGMTRLHNDL. Emissions are controlled by a baghouse (BH05).

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.6100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/Fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limits apply to the combined emissions from the overs mills.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/Fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This limit applies to the combined emissions from the overs mills.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.6100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/Fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This limit applies to the combined emissions from the overs mills.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.7500 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good design and operating practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit applies to the combined emissions from the overs mills.

Process/Pollutant Information

PROCESS NAME: EUFINES in FGMTRLHNDL
Process Type: 30.510 (Board Mfg, Material Handling. (e.g. unloading, storage & distribution))

Primary Fuel:

Throughput: 0

Process Notes: Conveyance of fines from screening to the energy plant dust silo. Emissions are controlled by a baghouse (BH20).

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.9300 LB/H TEST PROTOCOL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good design and operating practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The company determined that add-on control would not be cost effective; cost of control for other small VOC sources; the lowest cost estimates was $16,000 per ton for a source with a higher emission limit (EUPTL1, 4.3 lb/hr).

Process/Pollutant Information

PROCESS NAME: EUSIFTERS in FGMTRLHNDL
Process Type: 30.590 (Miscellaneous Particle & Strand Board Operations)
Primary Fuel:
Throughput: 0
Process Notes: Core and surface sifter/shaker. Emissions are controlled by a baghouse (BH08).

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUBARKSTG in FGMTRLHNDL

Process Type: 30.510 (Board Mfg, Material Handling. (e.g. unloading, storage & distribution))

Primary Fuel:

Throughput: 0

Process Notes: Conveyance of material to bark storage. Emissions are controlled by a baghouse (BH14B).

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.5500 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good design and operating practices.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The company determined that add-on control would not be cost effective; cost of control for other small VOC sources; the lowest cost estimate was $16,000 per ton for a source with a higher emission limit (EUPTL1, 4.3 lb/hr).

Process/Pollutant Information

PROCESS NAME: EUBLENDING in FGBLNDFRM

Process Type: 30.590 (Miscellaneous Particle & Strand Board Operations)

Primary Fuel:

Throughput: 0

Process Notes: Core and surface blending operations. Emissions are controlled by a baghouse (BH12).

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 2.4300 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Control cost for blending stack is $88,700 per ton which is not cost effective. Control cost for combining the blending and forming stacks in a single control device is not cost effective ($63,900/ton). Costs are for an RTO.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Bathouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

Process/Pollutant Information

PROCESS NAME: EUFORMING in FGBLNDFRM
Process Type: 30.590 (Miscellaneous Particle & Strand Board Operations)
Primary Fuel:
Throughput: 0
Process Notes: Core and surface forming operations with emissions controlled by baghouses BH12 and BH13 through forming stacks SV11 and SV13.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 9.3400 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) Good design and operation practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This limit is combined for both SV12 and SV13. SV12 control cost is $39,200. SV13 control cost is $68,200. Control cost for combining the blending and forming stacks in a single control device is not cost effective ($63,900). Costs are for an RTO.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.0500 LB/H THROUGH SV11
Emission Limit 2: 0.6600 LB/H THROUGH SV13
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: There is a third emission limit for PM. Emission Limit 3 = 0.002 GR/DSCF.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.0500 LB/H THRU SV11
Emission Limit 2: 0.6600 LB/H THRU SV13
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.0580 LB/H THRU SV11
Emission Limit 2: 0.6600 LB/H THRU SV13
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

Process/Pollutant Information

PROCESS NAME: EUPRESS in FGPRESSCOOL
Process Type: 30.520 (Board Presses.)
Primary Fuel:
Throughput: 0
Process Notes: Continuous press system to form mats into raw particle boards equipped with a wet scrubber (WS01) to control particle emissions. The press system and board cooling systems share an exhaust due to the use of a single enclosure to comply with the PCWP MACT.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.8500 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 12.5000 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a third emission limit: Emission Limit 3 = 0.042 lb/1000 sq. ft., 3/4 inch basis. The lowest estimated cost was $35,000/ton for catalytic regenerative oxidation to control 12.5 tons per year (tpy) CO. All other costs for other control options were higher. CO BACT was determined to be good design and operation practices with an emission limit of 2.85 lb/hr, 0.042 lb/1000 sq ft, 3/4 inch basis and 12.5 tpy. These limits apply to the total emissions from the press and board cooler.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.5000 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 11.0000 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a third emission limit: Emission Limit 3 = 0.04 lb/1000 sq. ft., 3/4 inch basis. There is no combustion associated with the press, but there are NOx emission factors. All control options would be combustion controls. There is no NOx emitted from the board cooling system. These limits apply to the total emissions from the press and board cooler.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 12.2000 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Wet scrubber

Est. % Efficiency: 90.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Wet scrubber 70 to 90+% efficient for filterable PM. The limit applies to the total emissions from the press and board cooler.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 2.2000 LB/H TEST PROTOCOL WILL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Wet scrubber

Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Wet scrubber 50 to 90% efficiency for condensable PM and 84 to 90% efficiency for filterable PM10. The limit applies to the total emissions from the press and board cooler.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.2000 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Wet scrubber
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Wet scrubber 50 to 90% efficiency for PM and 84 to 90% efficient for filterable PM10. The limit applies to the total emissions from the press and board cooler.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 49.5000 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 216.8000 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) Good design and operation practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: There are three emission limits: Emission Limit 3 = 0.728 lb/1000 sq. ft., 3/4 inch basis. The lowest estimated cost was $10,130/ton for catalytic regenerative oxidation to control the 216.8 tpy VOC. All other costs for other control options were higher. When considering CO control as well as VOC, catalytic regenerative oxidation cost is $14,000/ton. Add on control is not cost effective. Note these costs do not include the cost of particulate pre-control required to avoid fouling the oxidizer with the sticky, resin coated particulate. These limits apply to the total emissions from the press and board cooler.

Process/Pollutant Information

PROCESS NAME: EUCOOLING in FGPRESSCOOL
Process Type: 30.590 (Miscellaneous Particle & Strand Board Operations)
Primary Fuel:
Throughput: 0
Process Notes: Board cooling system equipped with a wet scrubber (WS01) to control particle emissions. The press system and board cooling systems share an exhaust due to the use of a single enclosure to comply with the PCWP MACT.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.8500 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 12.5000 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good design and operation practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 3 emission limits: Emission limit 3 = 0.042 lb/1000 sq.ft., 3/4 inch basis. The lowest estimated cost was $35,000/ton for catalytic regenerative oxidation to control 12.5 tpy CO. All other costs for other control options were higher. CO BACT was determined to be good design and operation practices with an emission limit of 2.85 lb/hr, 12.5 tpy, and 0.042 lb/1000 sq.ft. 3/4 inch basis. These limits apply to the total emissions from the press and board cooler.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.5000 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 11.0000 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 3 emission limits: Emission Limit 3 = 0.04 lb/1000 sq.ft., 3/4 inch basis. There is no combustion associated with the press, but there are NOx emission factors. All control options would be for combustion controls. There is no NOx emitted from the board cooling system. These limits apply to the total emissions from the press and board cooler.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 12.2000 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Wet scrubber
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Wet scrubber 70 to 90+% efficient for filterable PM. These limits apply to the total emissions from the press and board cooler.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.2000 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Wet scrubber
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Wet scrubber 50 to 90% efficient for condensable PM and 84 to 90% efficient for filterable PM10. These limits apply to the total emissions from the press and board cooler.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.2000 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Wet scrubber

Est. % Efficiency: 90.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Wet scrubber 50 to 90% efficient for condensable PM and 84 to 90% efficient for filterable PM10. These limits apply to the total emissions from the press and board cooler.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 49.5000 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 216.8000 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 3 emission limits: Emission Limit 3 = 0.728 lb/1000 sq.ft. 3/4 inch basis. The lowest estimated cost was $10,130/ton for catalytic regenerative oxidation to control the 216.8 tpy VOC. All other costs for other control options were higher. When considering CO control as well as VOC, catalytic regenerative oxidation cost is $14,000/ton. Add on control is not cost effective. Note these costs do not include the cost of particulate pre-control required to avoid fouling the oxidizer with the sticky, resin coated particulate. These limits apply to the total emissions from the press and board cooler.

Process/Pollutant Information

PROCESS NAME: EUTOH in FGTOH

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 38.00 MMBTU/H

Process Notes: One natural gas-fired thermal oil heater for press and sifter rated at 38 MMBTU/hr fuel heat input (EUTOH in FGTOH). Also falls under the RBLC Process Type Code 30.590.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0820 LB/MMBTU TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 13.7100 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The lowest estimated cost for the press/sifter thermal oil heater was $23,000/ton for an oxidation catalyst to control 12.3 tpy CO. This is not a reasonable cost. The small increase in heat input capacity (4 MMBTU/HR) does not make add on control cost effective.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0500 LB/MMBTU TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 8.1600 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Good design and combustion practices, Low NOx burners.
Est. % Efficiency: 50.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The company conducted a cost analysis for SCR for the press/sifter thermal oil heater. The results show that SCR is not economically feasible, with a cost of $27,000/ton. The small increase in heat input capacity (4 MMBTU/HR) does not make add on control cost effective.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 1.2000 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No add on control identified.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0005 LB/MMBTU TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0800 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No add on control identified.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0004 LB/MMBTU TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0700 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No add on control identified.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0054 LB/MMBTU TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.9000 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good design and operating/combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The control options were not economically feasible. The lowest estimated cost was $389,000/ton for thermal regenerative oxidation to control 0.8 tpy VOC. All other costs for other control options were higher. The small increase in heat input capacity (4 MMBTU/HR) does not make add on control cost effective.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 19490.0000 T/YR 12-MO ROLLING TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion and maintenance practices, natural gas only.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Control cost for carbon capture and sequestration determined to be $102/ton, which is not cost effective. This cost is based on controlling the total GHG emissions from the facility. The small increase in heat input capacity (4 MMBTU/HR) does not make add on control cost effective.

Process/Pollutant Information

PROCESS NAME: EUFLTOS1 in FGTOH

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 10.20 MMBTU/H

Process Notes: One natural gas-fired thermal oil system for thermally fused lamination lines rated at 10.2 MMBTU/H fuel heat input (EUFLTOS1 in FGTOH). Note: The throughput capacity, 10.2 MMBTU/H, is not a change but instead a correction from the previous entry. The previous entry is under MI-0421 for the original permit.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0820 LB/MMBTU TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 3.6900 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The lowest estimated cost for the press/sifter thermal oil heater was $23,000/ton for an oxidation catalyst to control 12.3 tpy CO. Given this high cost, controlling the thermally fused lamination line thermal oil heater would also not result in a reasonable control cost.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0500 LB/MMBTU TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 2.2000 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good design and combustion practices, low NOx burners.

Est. % Efficiency: 50.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: SCR is not economically feasible for the press/sifter thermal oil heater, with a cost of $27,000 per ton. Given this high cost for the larger heater, SCR would also not be cost effective for the smaller heater.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MMBTU TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 0.3300 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: No add on control identified.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0005 LB/MMBTU TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 0.0200 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No add on control identified.

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0004 LB/MMBTU TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0200 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No add on control identified.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0054 LB/MMBTU TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.2400 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good design and operating/combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The control options were not economically feasible. The lowest estimated cost was $389,000/ton for thermal regenerative oxidation to control 0.8 tpy VOC from the press/sifter thermal oil heater. All other costs for other control options were higher. Given this high cost, control would not be cost effective for the smaller heater.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 5254.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion and maintenance practices, natural gas only.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control cost for carbon capture and sequestration determined to be $102 per ton, which is not cost effective. This cost is based on controlling the total GHG emissions from the facility.

Process/Pollutant Information

PROCESS NAME: EUFCOS in FGFINISH
Process Type: 30.540 (Board Product Finishing. (e.g. sanders, saws and trimmers))
Primary Fuel:

Throughput: 0

Process Notes: One flying cutoff saw (EUFCOS in FGFINISH) controlled by baghouse BH17.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5500 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5500 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Baghouse/Fabric filter
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No

Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.5500 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Baghouse/fabric filters

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 1.4000 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The company determined that add-on control would not be cost effective; cost of control for other small VOC sources; the lowest cost estimate was $16,000 per ton for a source with a higher emission limit (EUPTL1, 4.3 lb/hr).

Process/Pollutant Information

PROCESS NAME: EUSANDING in FGFINISH

Process Type: 30.540 (Board Product Finishing. (e.g. sanders, saws and trimmers))

Primary Fuel:

Throughput: 0

Process Notes: Sanding operations (EUSANDING in FGFINISH) controlled by baghouse BH18.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.4300 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (A) Baghouse/fabric filters

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.4300 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Baghouse/fabric filter
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.4300 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 3.3200 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The company has determined that add-on control would not be cost effective; cost of control for other small VOC sources; the lowest cost estimate was $16,000 per ton for a source with a higher emission limit (EUPTL1, 4.3 lb/hr).

Process/Pollutant Information

PROCESS NAME: EUCTPSAW in FGFINISH

Process Type: 30.540 (Board Product Finishing. (e.g. sanders, saws and trimmers))

Primary Fuel:

Throughput: 0

Process Notes: One cut to panel saw line (EUCTPSAW in FGFINISH) controlled by baghouse BH19.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4400 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Baghouse/fabric filter

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4400 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Baghouse/fabric filter
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4400 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.4000 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good design and operation practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The company has determined that add-on control would not be cost effective; cost of control for other small VOC sources; the lowest cost estimate was $16,000/ton for a source with a higher emission limit (EUPTL1, 4.3 lb/hr).

Process/Pollutant Information

PROCESS NAME: EURMSILO in FGFINISH (Raw material sawdust silo)
Process Type: 30.540 (Board Product Finishing. (e.g. sanders, saws and trimmers))
Primary Fuel:
Throughput: 0
Process Notes: Conveyance of material from material reject and board making to Raw Material Sawdust Silo (EURMSILO in FGFINISH). Emissions are controlled by baghouse BH14A.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.5400 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good design and operation practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The company has determined that add-on control would not be cost effective; cost of control for other small VOC sources; the lowest cost estimate was $16,000 per ton for a source with a higher emission limit (EUPTL1, 4.3 lb/hr).

Process/Pollutant Information

PROCESS NAME: EUPTL1 & EUPTL2 in FGPTL (2 paper treating lines)

Process Type: 30.540 (Board Product Finishing. (e.g. sanders, saws and trimmers))

Primary Fuel: Natural gas

Throughput: 3.40 MMBTU/H

Process Notes: Two paper treating lines (EUPTL1 & EUPTL2 in FGPTL). Each line has a 3.4 MMBTU/H natural gas dryer and a monthly material limit for HAP content of each coating, limiting the HAP content to 1.6% by weight of coating material or 8% by weight of coating solids.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0820 LB/MMBTU EACH NG DRYER W/ EACH EMISSION UNIT

Emission Limit 2: 1.2300 T/YR 12-MO ROLLING TIME PERIOD; EACH DRYER

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good design and operation.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limits above are for each natural gas (NG) dryer with each emission unit. Oxidation catalyst cost estimated at $176,000 per ton which is not cost effective. All other control options have higher costs.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0500 LB/MMBTU EACH NG DRYER W/ EACH EMISSION UNIT

Emission Limit 2: 0.7300 T/YR 12-MO ROLLING TIME PERIOD; EACH DRYER

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Good design and combustion practices, low NOx burners.

Est. % Efficiency: 50.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limits above are for each natural gas (NG) dryer with each emission unit. The temperature of the dryer exhaust would be approximately 176 deg. F, well below the 480 to 800 deg. F required for SCR control and the 600 to 2100 deg. F required for SNCR. Water/steam injection would not be feasible because the purpose of the dryers is to dry the treated paper.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MMBTU EACH NG DRYER W/ EACH EMISSION UNIT

Emission Limit 2: 0.1100 T/YR 12-MO ROLLING TIME PERIOD; EACH DRYER

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Each emission limit above is for each natural gas (NG) dryer with each emission unit. No add-on control identified.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0005 LB/MMBTU EACH NG DRYER WITH EACH EMISSION UNIT
Emission Limit 2: 0.0100 T/YR 12-MO ROLLING TIME PERIOD; EACH DRYER
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limits above are for each natural gas (NG) dryer with each emission unit. No add-on control identified.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0004 LB/MMBTU EACH NG DRYER WITH EACH EMISSION UNIT
Emission Limit 2: 0.0100 T/YR 12-MO ROLLING TIME PERIOD; EACH DRYER
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limits above are for each natural gas (NG) dryer with each emission unit. No add-on control identified.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 4.3000 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 19.0000 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP , MACT , SIP
Control Method: (P) Good design and operating practices and low VOC coatings.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limits apply to each emission unit. The control options were not economically feasible. The lowest estimated cost was $16,000/ton for thermal regenerative oxidation. All other costs for other control options were higher. Note this cost is for controlling only a single line, as the company plans to install only a single line initially.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 3502.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion and maintenance practices, natural gas only.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control cost for carbon capture and sequestration determined to be $102 per ton, which is not cost effective. This cost is based on controlling the total GHG emissions from the facility.

Process/Pollutant Information

PROCESS NAME: EUTFL1, EUTFL2 & EUTFL3 in FGTFL (3 Thermally Fused Lamination Lines)

Process Type: 30.540 (Board Product Finishing. (e.g. sanders, saws and trimmers))

Primary Fuel:

Throughput: 0

Process Notes: Three thermally fused lamination lines (EUTFL1, EUTFL2 & EUTFL3 in FGTFL). EUTFL1 controlled by baghouse BH28, EUTFL2 controlled by baghouse BH29, and EUTFL3 controlled by baghouse BH30.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3300 LB/H EACH EMISSION UNIT
Emission Limit 2: 1.4500 T/YR 12-MO ROLLING TIME PERIOD; EACH EM. UNIT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: There are 3 emission limits for PM, the third limit is: Emission Limit 3 = 0.002 GR/DSCF and applies to each emission unit.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3300 LB/H EACH EMISSION UNIT
Emission Limit 2: 1.4500 T/YR 12-MO ROLLING TIME PERIOD; EACH EM. UNIT
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filter
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Limits apply to each emission unit. Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3300 LB/H EACH EMISSION UNIT
Emission Limit 2: 1.4500 T/YR 12-MO ROLLING TIME PERIOD; EACH EM. UNIT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Limits apply to each emission unit. Control efficient 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0500 LB/H EACH EMISSION UNIT
Emission Limit 2: 0.2400 T/YR 12-MO ROLLING TIME PERIOD; EACH EM. UNIT

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The lowest estimated cost was $1,872,000/ton for thermal regenerative oxidation to control 0.24 tpy VOC from one of the stacks. All costs for other control options for each stack were higher. Given this very high cost, combining the three stacks together would not result in a reasonable control cost.

Process/Pollutant Information

PROCESS NAME: EUEMRGRICE1 in FGRICE (Emergency diesel generator engine)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel

Throughput: 500.00 H/YR

Process Notes: One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE1 in FGRICE).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 3.5000 G/KW-H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 11.6000 LB/H TEST PROTOCOL SHALL SPECIFY

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good design and combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The company concluded that an oxidation catalyst would not be economically feasible, with an estimated cost of $71,000/ton.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 21.2000 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Certified engines, limited operating hours.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Based on the limited hours of operation, the company concluded that add-on control would not be cost effective.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.2000 G/KW-H TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 209.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion and design practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The hours of operation are limited to 500 hours per year for the emergency generator engine. Based on the limited operation, add on control would not be cost effective.

Process/Pollutant Information

PROCESS NAME: EUEMRGRICE2 in FGRICE (Emergency Diesel Generator Engine)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 500.00 H/YR
Process Notes: One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE2 in FGRICE).

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 3.9000 LB/H TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good design and combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The company concluded that an oxidation catalyst would not be economically feasible, with an estimated cost of $71,000/ton.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 4.4000 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Certified engines, limited operating hours
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Based on the limited hours of operation, the company concluded that add-on control would not be cost effective.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2200 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.2000 G/KW-H TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2200 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2200 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 70.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion and design practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The hours of operation are limited to 500 hours per year for the emergency generator engine. Based on the limited operation, add on control would not be cost effective.

Process/Pollutant Information

PROCESS NAME: EUFIREPUMP in FGRICE (Diesel fire pump engine)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel

Throughput: 500.00 H/YR

Process Notes: One diesel fire pump engine rated at 400 KW (EUFIREPUMP in FGRICE).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 3.5000 G/KW-H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 3.0900 LB/H TEST PROTOCOL SHALL SPECIFY

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good design and combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The company concluded that an oxidation catalyst would not be economically feasible, with an estimated cost of $71,000/ton for the larger emergency generator engine.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.5300 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Certified engines. Limited operating hours.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Based on the limited hours of operation, the company concluded that add-on control would not be cost effective.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1800 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.2000 G/KW-H TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1800 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP

Control Method: (P) Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1800 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 56.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method:	(P) Good combustion and design practices.
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	No
Pollutant/Compliance Notes:	The hours of operation are limited to 500 hours per year for the fire pump engine. Based on the limited operation, add on control would not be cost effective.

Facility Information

RBLC ID:	OH-0368 (final)	**Date Determination Last Updated:**	06/19/2019
Corporate/Company Name:	PALLAS NITROGEN LLC	**Permit Number:**	P0118959
Facility Name:	PALLAS NITROGEN LLC	**Permit Date:**	04/19/2017 (actual)
Facility Contact:	STEVE DOPUCH (440)867-5424 SDOPUCH@GMAIL.COM	**FRS Number:**	Not Found
Facility Description:	Natural gas-based facility for the manufacture of nitrogenous products.	**SIC Code:**	2873
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	325311
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	COLUMBIANA		
Facility State:	OH		
Facility ZIP Code:	43958		
Permit Issued By:	OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name) MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov		
Permit Notes:	Natural gas-based facility for the manufacture of nitrogenous products.		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	154.3000 (Tons/Year)
Nitrogen Oxides (NOx)	130.3000 (Tons/Year)
Particulate Matter (PM)	64.9000 (Tons/Year)
Sulfur Oxides (SOx)	3.3000 (Tons/Year)
Volatile Organic Compounds (VOC)	150.4000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Startup Heater (B001)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 100.00 MMBTU/H

Process Notes: 100 mmBtu/hr Startup Heater

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 8.2400 LB/H

Emission Limit 2: 1.9800 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0824 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 10.0000 LB/H

Emission Limit 2: 2.4000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1000 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing).

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7500 LB/H
Emission Limit 2: 0.1800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0075 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7500 LB/H
Emission Limit 2: 0.1800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0075 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.5400 LB/H

Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0054 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 2840.0000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Primary Reformer Heater (B002)

Process Type: 11.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 740.00 MMBTU/H

Process Notes: 740 mmBtu/hr Primary Reformer Heater with selective non-catalytic reduction (SNCR)

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 14.4000 LB/H

Emission Limit 2: 62.9000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0194 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and good air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 9.2500 LB/H PER 30 DAY ROLLING AVERAGE. SEE NOTES.

Emission Limit 2: 42.4000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 0.0125 LB/MMBTU SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) SNCR and low NOx burners

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0125 lb/MMBtu heat input (HHV), based on a daily rolling 30-day average, excluding periods of startup and shutdown. 9.25 lbs/hr, based on a daily rolling 30-day average, excluding periods of startup and shutdown and 42.4 tons per rolling, 12-month period. 0.13 lb/mmBtu of heat input (HHV), 96.2 lbs/hr, and 2.31 tons per rolling, 12-month period during periods of startup and shutdown.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.6000 LB/H

Emission Limit 2: 24.2000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0075 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and good air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.6000 LB/H

Emission Limit 2: 24.2000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0075 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and good air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.0000 LB/H

Emission Limit 2: 17.5000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0054 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and good air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 383584.0000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) use of low-carbon fuels (natural gas and/or tail gas) and periodic burner tuning and heater inspection.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and good air/fuel mixing)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Package Boilers (2 identical, B003 and B004)
Process Type: 11.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural gas
Throughput: 265.00 MMBTU/H

Process Notes: 265 mmBtu/hr Package Boilers #1 and #2 (B003 and B004). All limits and throughputs are for an individual boiler unless otherwise noted.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 4.0000 LB/H

Emission Limit 2: 17.4000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0150 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.3000 LB/H

Emission Limit 2: 14.5000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0125 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Low NOx burners and flu gas recirculation (FGR)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 2.0000 LB/H

Emission Limit 2: 8.6000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0075 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 2.0000 LB/H

Emission Limit 2: 8.6000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0075 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.4300 LB/H
Emission Limit 2: 6.3000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0054 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 137364.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) thermal efficiency of 80%, based on HHV in addition to good design, good combustion practices, and energy efficient operation.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Paved Roadways (F001)

Process Type: 99.140 (Paved Roads)

Primary Fuel:

Throughput: 70000.00 MI/YR

Process Notes: Paved roads

POLLUTANT NAME: Particulate matter, fugitive

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1: 13.2000 T/YR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (A) i. Paving of all plant roads that will be used for raw material and product transport; ii. Covering, at all times, of open-bodied vehicles when transporting materials likely to become airborne; and iii. Compliance with the opacity limits. Specifically, additional mitigation measures potentially including road sweeping or wet suppression will be implemented on an as-needed basis determined through visual observation of emissions associated with truck movements on the plant site.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 2.6000 T/YR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) i. Paving of all plant roads that will be used for raw material and product transport; ii. Covering, at all times, of open-bodied vehicles when transporting materials likely to become airborne; and iii. Compliance with the opacity limits. Specifically, additional mitigation measures potentially including road sweeping or wet suppression will be implemented on an as-needed basis determined through visual observation of emissions associated with truck movements on the plant site.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1: SEE NOTES.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) i. Paving of all plant roads that will be used for raw material and product transport; ii. Covering, at all times, of open-bodied vehicles when transporting materials likely to become airborne; and iii. Compliance with the opacity limits. Specifically, additional mitigation measures potentially including road sweeping or wet suppression will be implemented on an as-needed basis determined through visual observation of emissions associated with truck movements on the plant site.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: No visible PE from paved roadways and parking areas except for a period of time not to exceed one minute during any 60-minute observation period.

Process/Pollutant Information

PROCESS NAME: Amine Regenerator (MDEA Stripper) (P001)
Process Type: 61.012 (Fertilizer Production (except 61.009))
Primary Fuel:
Throughput: 73.50 T/H

Process Notes: The maximum NH3 production shall not exceed the following: 73.5 T/H, 1764 T/D and 643,860 tons per rolling, 12-month period.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 1.5000 LB/H
Emission Limit 2: 6.4000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) proper equipment design, operation and the use of a wet scrubber
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.02 lb/t of ammonia produced

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: EPA/OAR Mthd 25
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 4.3000 LB/H
Emission Limit 2: 18.7000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) proper equipment design, operation and the use of a wet scrubber
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.058 lb/ton ammonia produced

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 785509.0000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of low-carbon fuels (natural gas and/or tail gas) and periodic burner tuning and heater inspection.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Ammonium Nitrate Plant Process (P002)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 12.50 T/H

Process Notes: Ammonium Nitrate Process with Wet Scrubber. Listed throughput is for ammonia production.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 LB/H

Emission Limit 2: 0.7000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) wet scrubber
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.0128 lb/ton ammonium nitrate

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 LB/H
Emission Limit 2: 0.7000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) wet scrubber
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.0128 lb/ton ammonium nitrate

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:

Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Wet scrubber

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 5 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Back-End Process with flare (P003)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 150.00 MMBTU/H

Process Notes: Back-End Process Flare (emissions from non-routine releases from the amine regeneration and MDEA storage system) - the pilot flare has a maximum heat input of 0.9 mmBtu/hr (operates 8,760 hours per year) and the flare has a maximum heat input of 150 mmBtu/hr.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 46.5700 LB/H

Emission Limit 2: 22.6000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.31 lb/mmBtu of heat input

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 10.3700 LB/H
Emission Limit 2: 5.6000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.068 lb/mmBtu of heat input

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 4.0600 LB/H
Emission Limit 2: 1.9700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.027 lb/mmBtu of heat input

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 4.0600 LB/H
Emission Limit 2: 1.9700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.027 lb/mmBtu of heat input

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 85.5000 LB/H
Emission Limit 2: 41.1000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events. This emissions unit shall be equipped with a flare to control OC emissions. The flare shall be fired with natural gas and shall be operated with at least 98% control efficiency.

Est. % Efficiency: 98.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.57 lb/mmBtu of heat input

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 714.0000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good operational practices and energy efficient operation through a Minimization Plan and operation and maintenance in accordance with manufacturer recommendations.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Ammonia Synthesis Process with flare (P004)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 150.00 MMBTU/H

Process Notes: Ammonia Synthesis Process with flare - the pilot flare has a maximum heat input of 0.9 mmBtu/hr (operates 8,760 hours per year) and the flare has a maximum heat input of 150 mmBtu/hr.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 46.5700 LB/H
Emission Limit 2: 22.6000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.31 lb/mmBtu of heat input

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 12.4400 LB/H
Emission Limit 2: 6.6000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.068 lb/mmBtu of heat input

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 4.0600 LB/H
Emission Limit 2: 1.9700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.027 lb/mmBtu of heat input

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 4.0600 LB/H
Emission Limit 2: 1.9700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.027 lb/mmBtu of heat input

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 85.5000 LB/H
Emission Limit 2: 41.1000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events. This emissions unit shall be equipped with a flare to control OC emissions. The flare shall be fired with natural gas and shall be operated with at least 98% control efficiency.
Est. % Efficiency: 98.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.57 lb/mmBtu of heat input

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 714.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) good operational practices and energy efficient operation through a Minimization Plan and operation and maintenance in accordance with manufacturer recommendations

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Nitric Acid Process (P005)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 482.00 T/D

Process Notes: Nitric Acid Process with selective catalytic reduction (SCR). Nitric acid HNO3 production shall not exceed 482 tons per day and 175,820 tons per year.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 10.0000 LB/H

Emission Limit 2: 44.0000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) selective catalytic reduction (SCR)

Est. % Efficiency: 98.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.5 lb/ton of nitric acid produced

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 43425.0000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) catalytic decomposition reducing N2O by 98% control efficiency

Est. % Efficiency: 98.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Urea Granulation Process (P006)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 384.00 T/D

Process Notes: Urea Granulation Process with Wet Scrubber. Maximum granulated urea produced by this emissions unit shall not exceed 384 tons per day and 140,160 tons per year.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.7600 LB/H

Emission Limit 2: 7.7100 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) wet scrubber
Est. % Efficiency: 80.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.11 lb/ton of Granulated Urea

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.7600 LB/H
Emission Limit 2: 7.7100 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet scrubber
Est. % Efficiency: 80.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.11 lb/ton of Granulated Urea

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.3000 LB/H
Emission Limit 2: 1.2000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Wet scrubber

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.017 lb/ton Granulated Urea produced

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Wet scrubber

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 5 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Urea Synthesis (Melt) (P007)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 384.00 T/D

Process Notes: Urea Synthesis (Melt) with Wet Scrubber. Maximum granulated urea produced by this emissions unit shall not exceed 384 tons per day and 140,160 tons per year.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0640 LB/H
Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) wet scrubber
Est. % Efficiency: 80.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.004 lb/ton of Granulated Urea

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0640 LB/H
Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet scrubber
Est. % Efficiency: 80.000
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.004 lb/ton of Granulated Urea

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 128.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) use of low-carbon fuels (natural gas and/or tail gas) and periodic burner tuning and heater inspection
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet scrubber
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 5 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Emergency Fire Pump Diesel Engine (P008)
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 460.00 HP
Process Notes: 460 HP - 343 kW Emergency Fire Pump Diesel Engine

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6000 LB/H
Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.6000 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.3000 LB/H

Emission Limit 2: 0.0200 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 0.4 g/kW-hr. NSPS: Non-methane hydrocarbon (NMHC) + NOx emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0200 LB/H

Emission Limit 2: 0.0010 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 0.02 g/kW-hr. NSPS limit is 0.20 g/kW-hr (0.15 g/hp-hr)

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.1400 LB/H
Emission Limit 2: 0.0070 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.19 g/kW-hr. NMHC + NOx emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 123.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 LB/H
Emission Limit 2: 0.0010 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.02 g/kW-hr. NSPS limit is 0.20 g/kW-hr (0.15 g/hp-hr)

Process/Pollutant Information

PROCESS NAME: Emergency Generator (P009)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 5000.00 HP

Process Notes: 5,000 HP – 3,729 kW Emergency Generator Diesel Engine

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 28.8000 LB/H

Emission Limit 2: 1.4000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/B-HP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr)

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 5.5000 LB/H

Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 0.67 g/kW-hr. NSPS limit is NMHC + NOx emissions shall not exceed 6.4 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 LB/H

Emission Limit 2: 0.0100 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 0.03 g/kW-hr. NSPS limit is 0.2 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 LB/H

Emission Limit 2: 0.0100 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 0.03 g/kW-hr. NSPS limit is 0.2 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 1.6000 LB/H

Emission Limit 2: 0.0800 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 0.19 g/kW-hr. NSPS limit is NMHC + NOx emissions shall not exceed 6.4 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1289.0000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Cooling Towers #1 & #2 (P010 & P011)

Process Type: 99.009 (Industrial Process Cooling Towers)

Primary Fuel:

Throughput: 79800.00 GAL/M

Process Notes: Two identical 5 Cell Process Cooling Water Towers #1 and #2 with Drift Eliminators. Throughputs and limits are for one cooling tower, except as noted.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.3000 LB/H

Emission Limit 2: 1.3000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminators with a maximum drift rate specification of 0.0005 percent or less and total dissolved solids (TDS) concentration of the cooling water less than or equal to 5,000 milligrams per liter (mg/l)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0018 LB/H

Emission Limit 2: 0.0100 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminators with a maximum drift rate specification of 0.0005 percent or less and total dissolved solids (TDS) concentration of the cooling water less than or equal to 5,000 milligrams per liter (mg/l)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminators with a maximum drift rate specification of 0.0005 percent or less and total dissolved solids (TDS) concentration of the cooling water less than or equal to 5,000 milligrams per liter (mg/l)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Wastewater Treatment Plant Cooling Water Tower (P012)

Process Type: 99.009 (Industrial Process Cooling Towers)

Primary Fuel:

Throughput: 1000.00 GAL/M

Process Notes: Wastewater Treatment Plant Cooling Water Tower

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.0000 X10-4 LB/H

Emission Limit 2: 2.1000 X10-3 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminators with a maximum drift rate specification of 0.0005 percent or less and total dissolved solids (TDS) concentration of the cooling water less than or equal to 50,000 milligrams per liter (mg/l)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminators with a maximum drift rate specification of 0.0005 percent or less and total dissolved solids (TDS) concentration of the cooling water less than or equal to 50,000 milligrams per liter (mg/l)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Urea Process Equipment Leaks (F004)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 0

Process Notes: Urea Plant Equipment Leaks

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 21

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.1000 LB/H

Emission Limit 2: 17.9000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Leak detection and repair (LDAR) and comply with work practice standards in 40 CFR 60.482-1a – 60.482-11a as applicable for all equipment in VOC service.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Granulated Urea Transfer Points with bin vents (P901)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 0

Process Notes: Urea Dome and Granulated Urea Transfer with bin vents

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) bin vent filters
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Ammonia Tanks (T005, T006, and T007)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 3982773.00 GAL

Process Notes: Three identical 3,982,773 gallon Ammonia Tanks 1, 2 and 3 with flare. Throughputs and limits are for one tank, except as noted.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0400 LB/H
Emission Limit 2: 0.2000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) flare to control ammonia emissions
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0200 LB/H
Emission Limit 2: 0.1000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) flare to control ammonia emissions
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Ammonium Nitrate Solution Tanks (T010 and T011)
Process Type: 61.012 (Fertilizer Production (except 61.009))
Primary Fuel:

Throughput: 277021.00 GAL

Process Notes: Two identical 277,021 gallon Ammonium Nitrate Solution Tanks 1 and 2 with wet scrubber. Throughputs and limits are for one tank, except as noted.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0140 LB/H
Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet scrubber
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0140 LB/H
Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet scrubber
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Ammonia Day Tank (T018)
Process Type: 61.012 (Fertilizer Production (except 61.009))
Primary Fuel:
Throughput: 295194.00 GAL
Process Notes: 295,194 gallon Ammonia Day Tank with flare

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0400 LB/H
Emission Limit 2: 0.2000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) flare to control ammonia emissions
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0200 LB/H
Emission Limit 2: 0.1000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) flare to control ammonia emissions

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	IN-0263 (final)	**Date Determination**	
		Last Updated:	08/22/2017
Corporate/Company Name:	MIDWEST FERTILIZER COMPANY LLC	**Permit Number:**	129-36943-00059
Facility Name:	MIDWEST FERTILIZER COMPANY LLC	**Permit Date:**	03/23/2017 (actual)
Facility Contact:	RON OGLESBY 9703057850	**FRS Number:**	110059696841
Facility Description:	STATIONARY NITROGEN FERTILIZER MANUFACTURING FACILITY	**SIC Code:**	2873
Permit Type:	C: Modify process at existing facility	**NAICS Code:**	325311
Permit URL:	HTTP:PERMITS.AIR.IDEM.IN.GOV/36943F.PDF		
EPA Region:	5	**COUNTRY:**	USA
Facility County:	POSEY		
Facility State:	IN		
Facility ZIP Code:	47620		
Permit Issued By:	INDIANA DEPT OF ENV MGMT, OFC OF AIR (Agency Name) MR. MATT STUCKEY(Agency Contact) (317) 233-0203 mstuckey@idem.in.gov		
Other Agency Contact Info:	PERMIT WRITER: DEENA P. LEVERING 317-234-5400 DLEVERIN@IDEM.IN.GOV SECTION CHIEF: TRIPURARI SINHA PH.D. 317-234-4907		
Permit Notes:			

Process/Pollutant Information

PROCESS NAME: STARTUP HEATER EU-002

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: NATURAL GAS

Throughput: 70.00 MMBTU/HR

Process Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1300 LB/H 3HR AVERAGE

Emission Limit 2: 200.0000 H/YR

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) GOOD COMBUSTION PRACTICE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.5220 LB/H 3HOUR AVERAGE

Emission Limit 2: 200.0000 H/YR

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5220 LB/H 3 HOUR AVERAGE
Emission Limit 2: 200.0000 H/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 12.6110 LB/H 3 HOUR AVERAGE
Emission Limit 2: 200.0000 H/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.5560 LB/H 3 HOUR AVERAGE
Emission Limit 2: 200.0000 H/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.3780 LB/H 3 HOUR AVERAGE
Emission Limit 2: 200.0000 H/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Carbon Dioxide
CAS Number: 124-38-9
Test Method: Unspecified
Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)
Emission Limit 1: 8184.0000 LB/H 3 HOUR AVERAGE
Emission Limit 2: 200.0000 H/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES AND THE USE OF INLET AIR CONTROL SENSORS THAT LIMIT EXCESS AIR
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SHALL COMBUST NATURAL GAS

Process/Pollutant Information

PROCESS NAME: UREA SYNTHESIS PLANT (EU-006)
Process Type: 61.012 (Fertilizer Production (except 61.009))
Primary Fuel:
Throughput: 2640.00 METRIC TON/DAY
Process Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) GOOD OPERATIONAL PRACTICES

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: OTHER

Control Method: (P) GOOD OPERATIONAL PRACTICES

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Basis is State VOC BACT (326 IAC 8-1-6)

POLLUTANT NAME: Carbon Dioxide
CAS Number: 124-38-9
Test Method: Unspecified
Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)
Emission Limit 1: 387.0000 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: Unknown
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATIONAL PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: UREA AMMONIUM NITRATE PLANT (EU-007)
Process Type: 61.012 (Fertilizer Production (except 61.009))
Primary Fuel:
Throughput: 5160.00 METRIC TON/DAY
Process Notes:

POLLUTANT NAME: Carbon Dioxide
CAS Number: 124-38-9
Test Method: Unspecified
Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)
Emission Limit 1: 1173.0000 TONS/12 MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) GOOD OPERATIONAL PRACTICES AND EFFICIENT DESIGN
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: UREA GRANULATION UNIT (EU-008)
Process Type: 61.012 (Fertilizer Production (except 61.009))
Primary Fuel:
Throughput: 1320.00 METRIC TON/DAY
Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1630 LB/TON 3HOUR AVERAGE
Emission Limit 2: 368040.0000 TON/12 CONSEC. MONTH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) WET SCRUBBER
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1630 LB/TON 3 HOUR AVERAGE
Emission Limit 2: 368040.0000 TON/12 CONSEC. MONTH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) WET SCRUBBER
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1630 LB/TON 3 HOUR AVERAGE
Emission Limit 2: 368040.0000 TON/12 CONSEC. MONTH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) WET SCRUBBER
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: NITRIC ACID PLANT (EU-009)

Process Type: 62.014 (Nitric Acid Plants)

Primary Fuel:

Throughput: 1840.00 METRIC TON/DAY

Process Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.1780 LB/TON NORMAL OPERATIONS

Emission Limit 2: 0.0830 TON/EVENT 4 EVENTS/YR, 3HR/EVENT DURING STARTUP

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) GOOD PROCESS DESGIN AND CONTROL

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EIGHTEEN CELL COOLING TOWER (EU-010)

Process Type: 99.999 (Other Miscellaneous Sources)

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2000.0000 MG/L AVG ON A MONTHLY BASIS
Emission Limit 2: 0.0005 % DRIFT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) HIGH EFFICIENCY DRIFT ELIMINATORS
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2000.0000 MG/L AVG. ON A MONTHLY BASIS
Emission Limit 2: 0.0005 % DRIFT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) HIGH EFFICIENCY DRIFT ELIMINATORS
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2000.0000 MG/L AVG. ON A MONTHLY BASIS
Emission Limit 2: 0.0005 % DRIFT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) HIGH EFFICIENCY DRIFT ELIMINATORS
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: NATURAL GAS AUXILIARY BOILERS (EU-012A, EU-012B, EU-012C)
Process Type: 12.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: NATURAL GAS
Throughput: 218.60 MMBTU/H
Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.9000 LB/MMCF EACH 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) PROPER DESIGN AND GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN OPERATION.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 2: SHALL COMBUST NATURAL GAS LIMIT 3: EACH SHALL NOT EXCEED 1,877.39 MMCF PER 12 CONSECUTIVE MONTH PERIOD

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 7.6000 LB/MMCF EACH 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) PROPER DESIGN AND GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN OPERATION.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 2:SHALL COMBUST NATURAL GAS LIMIT 3: EACH SHALL NOT EXCEED 1877.39 MMCF/ 12 MONTH CONSECUTIVE PERIOD

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 7.6000 LB/MMCF EACH 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) PROPER DESIGN AND GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN OPERATION.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 2: SHALL COMBUST NATURAL GAS LIMIT 3: EACH SHALL NOT EXCEED 1877.39 MMCF/ 12 CONSECUTIVE MONTH PERIOD

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 20.4000 LB/MMCF EACH 3 HOUR AVERAGE

Emission Limit 2: 1877.3900 MMCF/12 MONTH EACH ROLLING AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) LOW NOX BURNERS WITH FLUE GAS RECIRCULATION AND GOOD COMBUSTION PRACTICES

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 37.2200 LB/MMCF EACH 3 HOUR AVERAGE

Emission Limit 2: 1877.3900 MMCF/12 MONTH EACH ROLLING AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN OPERATION

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 5.5000 LB/MMCF EACH 3 HOUR AVERAGE

Emission Limit 2: 1877.3900 MMCF/12 MONTH EACH ROLLING AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN OPERATION

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Carbon Dioxide

CAS Number: 124-38-9

Test Method: Unspecified

Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)

Emission Limit 1: 59.6100 TON/MMCF EACH 3 HOUR AVERAGE

Emission Limit 2: 1877.3900 MMCF/12 MONTH EACH ROLLING AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN OPERATION.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: SHALL COMBUST NATURAL GAS LIMIT 4: EACH SHALL BE DESIGNED TO ACHIEVE A MINIMUM 80% THERMAL EFFICIENCY LIMIT 5: EACH SHALL BE EQUIPPED WITH THE FOLLOWING ENERGY EFFICIENCY DESIGN FEATURES (1) AIR INLET CONTROLS, (2) HEAT RECOVERY, (3) CONDENSATE RECOVERY, (4) BLOW DOWN HEAT RECOVERY

Process/Pollutant Information

PROCESS NAME: EMERGENCY GENERATORS (EU014A AND EU-014B)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: DISTILLATE OIL

Throughput: 3600.00 HP EACH

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 G/HP-H EACH 3 HOUR AVERAGE

Emission Limit 2: 500.0000 H/YR EACH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) GOOD COMBUSTION PRACTICES

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/HP-H EACH 3 HOUR AVERAGE
Emission Limit 2: 500.0000 H/YR EACH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/HP-H EACH 3 HOUR AVERAGE
Emission Limit 2: 500.0000 H/YR EACH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 4.4200 G/HP-H EACH 3 HOUR AVERAGE
Emission Limit 2: 500.0000 H/YR EACH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6100 G/HP-H EACH 3 HOUR AVERAGE
Emission Limit 2: 500.0000 H/YR EACH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.3500 G/HP-H EACH 3 HOUR AVERAGE
Emission Limit 2: 500.0000 H/YR EACH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide
CAS Number: 124-38-9
Test Method: Unspecified
Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)
Emission Limit 1: 1044.0000 TON/12 CONSEC. MONTH EACH
Emission Limit 2: 500.0000 H/YR EACH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: AMMONIA STORAGE FLARE (EU-016)
Process Type: 19.390 (Other Flares)
Primary Fuel: NATURAL GAS
Throughput: 1.10 MMBTU/H
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU 3 HR AVG.
Emission Limit 2: 168.0000 H/12 CONSEC. MONTH COMPLIANCE DETERMINED AT END OF EA MONTH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: Unknown
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS SHALL BE NATURAL GAS LIMIT 4: SHALL COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUT DOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT THE PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) SHALL TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND TEH SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP

OR SHUT DOWN. THIS ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DURING ANY 2 CONSEC. HRS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMACOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0019 LB/MMBTU 3 HOUR AVERAGE

Emission Limit 2: 168.0000 H/12 CONSEC. MONTH COMPLIANCE DETERMINED AT END OF MONTHS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS SHALL BE NATURAL GAS LIMIT 4: SHALL COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUT DOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) SHALL TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO TDAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANE OF REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MINS DURING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMACOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MMBTU 3 HOUR AVERAGE

Emission Limit 2: 168.0000 H/12 CONSEC MONTH COMPLIANCE DETERMINED AT END OF MONTHS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS SHALL BE NATURAL GAS LIMIT 4: SHALL COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUT DOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) SHALL TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP AND SHUT DOWN. THIS ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DURING TWO CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 125.0000 LB/H WHILE VENTING 3 HOUR AVG.

Emission Limit 2: 0.0680 LB/MMBTU DURING NORMAL OP. 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: 168 HOURS / 12 CONSECUTIVE MONTH PERIOD LIMIT 5: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUT DOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUTDOWN. THIS ANALYSIS SHALL IDENTFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 6: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MINS DURING ANY 2 CONSEC. HRS.; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMACOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.3700 LB/MMBTU NORMAL OPERATION 3 HR AVG.

Emission Limit 2: 168.0000 H/YR VENTING COMPLIANCE DETERMINED AT END OF EA MONTH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: THE PILOT AND PURGE GAS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0054 LB/MMBTU NORMAL OPERATIONS 3 HR AVG.

Emission Limit 2: 168.0000 H/12 CONSEC. MONTH COMPLIANCE DETERMINED AT END OF EA MONTH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Carbon Dioxide

CAS Number: 124-38-9

Test Method: Unspecified

Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)

Emission Limit 1: 563.0000 TON/12 CONSEC. MONTH

Emission Limit 2: 168.0000 H/12 CONSEC. MONTH COMPLIANCE DETERMINED AT END OF EA MONTH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS

STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

Process/Pollutant Information

PROCESS NAME: FRONT END FLARE EU-017

Process Type: 19.390 (Other Flares)

Primary Fuel: NATURAL GAS

Throughput: 1.12 MMBTU/H

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.9000 LB/MMCF 3 HR AVG.

Emission Limit 2: 336.0000 H/12 CONSEC. MONTH VENTING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 7.6000 LB/MMCF 3 HR AVG

Emission Limit 2: 336.0000 H/12 CONSEC. MONTH VENTING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS

STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 7.6000 LB/MMCF 3 HR AVG

Emission Limit 2: 336.0000 H/12 CONSEC. MONTH VENTING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES;

SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0680 LB/MMBTU NORMAL OPS. 3 HR AVG.

Emission Limit 2: 595.4900 LB/H VENTING OPS. 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HRS PER 12 CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED AT END OF EACH MONTH.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.3700 LB/MMBTU NORMAL OPS. 3 HR AVG.

Emission Limit 2: 3240.1600 LB/H VENTING OPS. 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HOURS PER TWELVE CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED AT THE END OF EACH MONTH.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0054 LB/MMBTU NORMAL OPS. 3 HR AVG

Emission Limit 2: 47.2600 LB/H VENTING OPS. 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HOURS PER TWELVE CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED AT THE END OF EACH MONTH.

POLLUTANT NAME: Carbon Dioxide

CAS Number: 124-38-9

Test Method: Unspecified

Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)

Emission Limit 1: 116.8900 LB/MMBTU NORMAL OPS. 3 HR AVG

Emission Limit 2: 512.2000 TON/H VENTING OPS., 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HOURS PER TWELVE CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED AT THE END OF EACH MONTH.

Process/Pollutant Information

PROCESS NAME: BACK END FLARE (EU-018)

Process Type: 19.390 (Other Flares)

Primary Fuel: NATURAL GAS

Throughput: 1.12 MMBTU/H

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0019 LB/MMBTU 3 HR AVG

Emission Limit 2: 336.0000 HR/12 CONSEC. MONTH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MMBTU 3 HR AVG.

Emission Limit 2: 336.0000 HR/12 CONSEC. MONTH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MMBTU 3 HR AVG.

Emission Limit 2: 336.0000 HR/12 CONSEC. MONTHS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0680 LB/MMBTU NORMAL OPS. 3 HR AVG.

Emission Limit 2: 624.9400 LB/H VENTING OPS. 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS

STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HOURS PER 12 CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED AT END OF EACH MONTH.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.3700 LB/MMBTU NORMAL OPS. 3 HR AVG.

Emission Limit 2: 804.7600 LB/H VENTING OPS. 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL

BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HOURS PER 12 CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED AT END OF EACH MONTH.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0054 LB/MMBTU NORMAL OPS. 3 HR AVG.

Emission Limit 2: 11.7300 LB/H VENTING OPS. 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HOURS PER 12 CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED

AT END OF EACH MONTH.

POLLUTANT NAME: Carbon Dioxide

CAS Number: 124-38-9

Test Method: Unspecified

Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)

Emission Limit 1: 116.8900 LB/MMBTU NORMAL OPS. 3 HR AVG

Emission Limit 2: 573.0000 TON/12 CONSEC. MONTH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HOURS PER 12 CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED AT END OF EACH MONTH.

Process/Pollutant Information

PROCESS NAME: TRUCK AND RAIL LOADING OPERATION (EU-021A)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 4800.00 METRIC TON/DAY

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 LB/H 3 HR AVG.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 LB/H 3 HR AVG.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 LB/H 3 HR AVG.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) BAGHOUSE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: PAVED ROADS AND PARKING LOTS
Process Type: 99.190 (Other Fugitive Dust Sources)
Primary Fuel:
Throughput: 0
Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) PAVING ALL PLANT HAUL ROADS, WET SUPPRESSION, PROMPT CLEANUP OF ANY SPILLED MATERIALS.
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) PAVING ALL PLANT HAUL ROADS, WET SUPPRESSION, PROMPT CLEANUP OF ANY SPILLED MATERIALS.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM

Test Method:	Unspecified
Pollutant Group(s):	(Particulate Matter (PM))
Emission Limit 1:	
Emission Limit 2:	
Standard Emission:	

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(P) PAVING ALL PLANT HAUL ROADS, WET SUPPRESSION, PROMPT CLEANUP OF ANY SPILLED MATERIALS.
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	LA-0316 (final)	**Date Determination Last Updated:**	04/28/2017
Corporate/Company Name:	CAMERON LNG LLC	**Permit Number:**	PSD-LA-766(M3)
Facility Name:	CAMERON LNG FACILITY	**Permit Date:**	02/17/2017 (actual)
Facility Contact:	CLAYTON MILLER 337-680-4531 CMILLER@CAMERONLNG.COM	**FRS Number:**	110029511883
Facility Description:	a facility to liquefy natural gas for export (5 trains)	**SIC Code:**	4922
Permit Type:	B: Add new process to existing facility	**NAICS Code:**	221210
Permit URL:			
EPA Region:	6	**COUNTRY:**	USA
Facility County:	CAMERON		
Facility State:	LA		
Facility ZIP Code:	70645		
Permit Issued By:	LOUISIANA DEPARTMENT OF ENV QUALITY (Agency Name) MR. BRYAN D. JOHNSTON(Agency Contact) (225)219-3450 BRYAN.JOHNSTON@LA.GOV		
Other Agency Contact Info:	permit writer: dan nguyen (225)219-3395		

Permit Notes: Permit PSD-LA-766, dated 10/1/13 for liquefaction trains 1,2, and 3 Permit PSD-LA-766(M1), dated 6/26/14, for minor changes; Permit PSD-LA-766(M2), dated 3/3/16, for train 4 and 5

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	LA	Breton	> 250 km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	3147.0000 (Tons/Year)
Nitrogen Oxides (NOx)	3172.0000 (Tons/Year)
Particulate Matter (PM)	438.0000 (Tons/Year)
Sulfur Oxides (SOx)	27.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	226.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Gas turbines (9 units)

Process Type: 15.110 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: natural gas

Throughput: 1069.00 mm btu/hr

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0076 LB/MM BTU THREE ONE-HOUR TEST AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion practices and fueled by natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0076 LB/MM BTU THREE ONE-HOUR TEST AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion practices and fueled by natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 15.0000 PPMVD @15%O2

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion practices and dry low nox burners

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 15.0000 PPMVD @15%O2

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion practices and fueled by natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 1.6000 PPMVD @15%O2

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion practices and fueled by natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion practices and fueled by natural gas; Use high thermal efficiency turbines

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: thermal oxidizers (4 units)

Process Type: 19.200 (Emission Control Afterburners & Incinerators (combustion gasses only))

Primary Fuel: natural gas

Throughput: 390.42 mm btu/hr

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) good equipment design, proper operating practices, and fueled by natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good equipment design, proper operating practices, and fueled by natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) good equipment design, proper operating practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good equipment design, proper operating practices, and fueled by natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) good equipment design, proper operating practices, and fueled by natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good equipment design, proper operating practices, and fueled by natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Flares (3 units)
Process Type: 19.390 (Other Flares)
Primary Fuel: natural gas
Throughput: 0
Process Notes: ground flare EU20 = 91 MM BTU/hr low pressure flare EU20A = 1077 mm btu/hr

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) proper plant operations and maintaining the presence of the flame at the flare tips when vent gas is routed to the flares
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) proper plant operations and maintaining the presence of the flame at the flare tips when vent gas is routed to the flares
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) proper plant operations and maintaining the presence of the flame at the flare tips when vent gas is routed to the flares

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) proper plant operations and maintaining the presence of the flame at the flare tips when vent gas is routed to the flares

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) proper plant operations and maintaining the presence of the flame at the flare tips when vent gas is routed to the flares

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) proper plant operations and maintaining the presence of the flame at the flare tips when vent gas is routed to the flares

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: firewater pump engines (8 units)

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: diesel

Throughput: 460.00 hp

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Complying with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Complying with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Dioxide (NO2)
CAS Number: 10102-44-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Complying with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Complying with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Complying with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: emergency generator engines (6 units)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: diesel
Throughput: 3353.00 hp
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Complying with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Complying with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Complying with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Complying with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Complying with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: condensate tanks (3 units)

Process Type: 42.006 (Petroleum Liquid Storage in Floating Roof Tanks)

Primary Fuel:

Throughput: 965000.00 gallons (each)

Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) closed vent system and control devices that meet 40 CFR 60 Subpart Kb
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: diesel tanks (2 units)
Process Type: 42.006 (Petroleum Liquid Storage in Floating Roof Tanks)
Primary Fuel:
Throughput: 54144.00 gallons (each)
Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) equipped with fixed roofs
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: condensate loading

Process Type: 50.004 (Petroleum Refining Feedstock (blending, loading and unloading))

Primary Fuel:

Throughput: 604240.00 bbls/yr

Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good equipment design and proper operating practices; vapor balanced loading

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: fugitive emissions

Process Type: 50.007 (Petroleum Refining Equipment Leaks/Fugitive Emissions)

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Complying with LAC 33:III.2111
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Implement a leak detection and repair (LDAR) program to minimize the leak
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Facility Information

RBLC ID:	LA-0323 (final)	**Date Determination**	
		Last Updated:	05/11/2018
Corporate/Company Name:	MONSANTO COMPANY	**Permit Number:**	PSD-LA-890
Facility Name:	MONSANTO LULING PLANT	**Permit Date:**	01/09/2017 (actual)
Facility Contact:	ENRIQUE WEHLEN 9857858211 ENRIGUE.WEHLEN@MONSANTO.COM	**FRS Number:**	110067118274
Facility Description:	Chemical Manufacture	**SIC Code:**	2879
Permit Type:	D: Both B (Add new process to existing facility) &C (Modify process at existing facility)	**NAICS Code:**	325320
Permit URL:	http://edms.deq.louisiana.gov/app/doc/view.aspx?doc=10460194&ob=yes		
EPA Region:	6	**COUNTRY:**	USA
Facility County:	ST. CHARLES PARISH		
Facility State:	LA		
Facility ZIP Code:	70070		
Permit Issued By:	LOUISIANA DEPARTMENT OF ENV QUALITY (Agency Name) MR. BRYAN D. JOHNSTON(Agency Contact) (225)219-3450 BRYAN.JOHNSTON@LA.GOV		
Permit Notes:	Dicamba Manufacturing Facility expansion project.		

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	LA	Breton	100km - 50km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	118.3000 (Tons/Year)
Nitrogen Oxides (NOx)	84.2400 (Tons/Year)
Particulate Matter (PM)	20.8600 (Tons/Year)
Sulfur Oxides (SOx)	1.6100 (Tons/Year)
Volatile Organic Compounds (VOC)	39.4900 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	No. 9 Boiler - Natural Gas Fired
Process Type:	11.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel:	Natural Gas
Throughput:	325.00 MMBTU/h
Process Notes:	

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , NESHAP
Control Method: (P) Good combustion practices and Boiler MACT
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Method 201A
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP , NSPS
Control Method: (P) Good combustion practices and Boiler MACT
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0350 LB/MMBTU ANNUAL AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , NESHAP

Control Method: (A) Ultra Low NOx Burners

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0450 LB/MMBTU ANNUAL AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , NESHAP

Control Method: (P) Good combustion practices and Boiler MACT

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 0.1670 LB/LB ANNUAL AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , NESHAP

Control Method: (P) Good combustion practices and energy efficient operation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Units are lb of CO2e/lb of steam generated.

Process/Pollutant Information

PROCESS NAME: No. 10 Boiler - Natural Gas Fired

Process Type: 11.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural Gas

Throughput: 325.00 MMBTU/h

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and OTM 28

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MMBTU ANNUAL AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , NESHAP
Control Method: (P) Good combustion practices and Boiler MACT
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Method 201A
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , NESHAP
Control Method: (P) Good combustion practices and Boiler MACT
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0350 LB/MMBTU ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , NESHAP
Control Method: (A) Ultra Low NOx Burners
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0450 LB/MMBTU ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , NESHAP
Control Method: (P) Good combustion practices and Boiler MACT
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 0.1670 LB/LB ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , NESHAP
Control Method: (P) Good combustion practices and energy efficient operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are lb of CO2e/lb of steam generated.

Process/Pollutant Information

PROCESS NAME: Cooling Water Tower
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel:
Throughput: 18000.00 gal/m
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0030 %
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (A) Drift Eliminators with Draft Factor of 0.003%
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Drift Eliminators with Drift Factor of 0.003%

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (A) Drift Eliminators with Drift Factor of 0.003%
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Drift Eliminators with Drift Factor of 0.003%

Process/Pollutant Information

PROCESS NAME: Emergency Flare
Process Type: 19.310 (Chemical Plant Flares)
Primary Fuel: Natural Gas
Throughput: 0.40 mmbtu/h
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NESHAP
Control Method: (P) Proper design and operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (P) Proper design and operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NESHAP
Control Method: (P) Proper design and operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (P) Proper design and operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NESHAP
Control Method: (P) Proper design and operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Thermal Oxidizer with Caustic Scrubber
Process Type: 19.900 (Other Misc. Combustion)
Primary Fuel:
Throughput: 33.50 mmbtu/h
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (B) Good combustion practices, Compliance with applicable NESHAP, and Caustic Scrubber.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (B) Good combustion practices, Compliance with applicable NESHAP, and Caustic Scrubber.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (B) Good combustion practices, Compliance with applicable NESHAP, and Caustic Scrubber.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (B) Good combustion practices, Compliance with applicable NESHAP, and Caustic Scrubber.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Fire Water Diesel Pump No. 3 Engine

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel Fuel

Throughput: 600.00 hp

Process Notes: Emergency engine with a limit of 100 hours/yr on operating hours for ready testing.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Fire Water Diesel Pump No. 4 Engine
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel Fuel
Throughput: 600.00 hp

Process Notes: Emergency Engine limited to 100 hours/yr for ready tests

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Standby Generator No. 9 Engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel Fuel
Throughput: 400.00 hp
Process Notes: Operating hours limited to 100 hours/yr for ready testing.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Process Baghouse Dust Collector Filter
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 700.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0003 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0003 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 1 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 2 Baghouse Dust Collector

Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)

Primary Fuel:

Throughput: 12000.00 cfm

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Baghouse Dust Collector Filter

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 3 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0020 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 4 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 5 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 6 Baghouse Dust Collector

Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)

Primary Fuel:

Throughput: 12000.00 cfm

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Baghouse Dust Collector Filter

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Baghouse Dust Collector Filter

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 7 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 8 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 9 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 10 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:

Throughput: 12000.00 cfm

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 11 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:

Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 12 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 13 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 14 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 15 Baghouse Dust Collector

Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)

Primary Fuel:

Throughput: 12000.00 cfm

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Baghouse Dust Collector Filter

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(A) Baghouse Dust Collector Filter
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	MI-0423 (final)	**Date Determination**	
		Last Updated:	03/08/2018
Corporate/Company Name:	INDECK NILES, LLC	**Permit Number:**	75-16
Facility Name:	INDECK NILES, LLC	**Permit Date:**	01/04/2017 (actual)
Facility Contact:	MICHAEL DUBOIS 847-520-3212 MDUBOIS@INDECKENERGY.COM	**FRS Number:**	Not Found
Facility Description:	Natural gas combined cycle power plant.	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	CASS		
Facility State:	MI		
Facility ZIP Code:	49120		
Permit Issued By:	MICHIGAN DEPT OF ENVIRONMENTAL QUALITY (Agency Name) MS. CINDY SMITH(Agency Contact) (517)284-6802 SMITHC17@MICHIGAN.GOV		
Other Agency Contact Info:	Please contact the permit engineer, Catherine Asselin at 517-284-6786, or at asselinc@michigan.gov, for technical questions regarding the permit. Thank you.		
Permit Notes:	The permit includes equipment not entered into the RBLC due to a lack of emission limits or material limits; these include a cold cleaner, a number of space heaters, and two fuel tanks.		

Facility-wide Emissions:

Pollutant Name:	**Facility-wide Emissions Increase:**
Carbon Monoxide	2009.0000 (Tons/Year)
Nitrogen Oxides (NOx)	494.0000 (Tons/Year)
Particulate Matter (PM)	91.2000 (Tons/Year)
Sulfur Oxides (SOx)	103.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	948.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: FGCTGHRSG (2 Combined Cycle CTGs with HRSGs)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 8322.00 MMBTU/H

Process Notes: There are 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) identified as EUCTGHRSG1 & EUCTGHRSG2 in the flexible group FGCTGHRSG. The total hours for startup and shutdown for each train shall not exceed 500 hours per 12-month rolling time period. The throughput capacity is 3421 MMBTU/H for each turbine, and 740 MMBTU/H for each duct burner for a combined throughput of 4161 MMBTU/H or 8322 MMBTU/H for both trains.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 24.7000 LB/H 24-H ROLLING AVG

Emission Limit 2: 3537.0000 LB/H OPERATING HR. DURING STARTUP OR SHUTDOWN

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 3 emission limits and they are for EACH CTGHRSG, as follows: Emission Limit 1 = 4 ppmvd at 15%O2 based on a 24-H rolling average as determined each operating hour except during startup and shutdown. Emission Limit 2 = 24.7 LB/H based on a 24-H rolling average as determined each operating hour except during startup and shutdown. Emission Limit 3 = 3537 LB/H based on an operating hour during startup or shutdown. Startup and shutdown operations are limited to 500 hours per 12-month rolling time period for each CTGHRSG train. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the

combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the startup and shutdown emission minimization plan. The efficiency range is 85-90 percent.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 38.1000 LB/H 24-H ROLLING AVERAGE

Emission Limit 2: 286.0000 LB/H OPERATING HR DURING STARTUP OR SHUTDOWN

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) SCR with DLNB (selective catalytic reduction with dry low NOx burners)

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 4 emission limits (2 in the table above) with are for EACH CTGHRSG. They are as follows: Emission Limit 1 = 3 ppmvd at 15%O2 based on a 24-H rolling avg as determined each operating hour except during startup and shutdown. Emission Limit 2 = 15 ppmvd at 15%O2 based on a 30-day rolling avg as determined each operating day. (NSPS KKKK). Emission Limit 3 = 38.1 LB/H based on a 24-H rolling avg as determined during each operating hour except during startup and shutdown. Emission Limit 4 = 286 LB/H based on an operating hour during startup or shutdown. Startup and shutdown operations are limited to 500 hours per 12-month rolling time period for each CTGHRSG train. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the startup and shutdown emission minimization plan. The efficiency range is 80-90 percent.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 9.9000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit in the table above is for EACH CTGHRSG. The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. The dollar value year used was 2014. Pulse jet fabric filter baghouse: minimum of $364,528 per ton. Mechanical shaker fabric filter baghouse: minimum of $404,724 per ton. Reverse-air fabric filter baghouse: minimum of $476,689 per ton. Dry ESP (Wire-plate type): minimum of $478,806 Dry ESP (Wire-pipe type): minimum of $303,809 per ton. Wet ESP (Wire-plate type): minimum of $576,763 per ton. Wet ESP (Wire-pipe type): minimum of $440,047 per ton. Venturi Scrubber: minimum of $1,445,564 per ton.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.8000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit in the table above applies to EACH CTGHRSG. The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10 which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. The dollar value year used was 2014. Pulse Jet Fabric Filter Baghouse: minimum of $364,528 per ton Mechanical Shaker Fabric Filter Baghouse: minimum of $404,724 per ton Reverse-Air Fabric Filter Baghouse: minimum of $476,689 per ton Dry ESP (Wire-Plate Type): minimum of $478,806 per ton Dry ESP (Wire-Pipe Type): minimum of $303,809 per ton Wet ESP (Wire-Plate Type): minimum of $576,763 per ton Wet ESP (Wire-Pipe Type): minimum of $440,047 per ton Venturi Scrubber: minimum of $1,445,564 per ton

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.8000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good Combustion Practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit in the table above is for EACH CTGHRSG. The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. The dollar value year used was 2014. Pulse Jet Fabric Filter Baghouse: minimum of $364,528 per ton Mechanical Shaker Fabric Filter Baghouse: minimum of $404,724 per ton Reverse-Air Fabric Filter Baghouse: minimum of $476,689 per ton Dry ESP (Wire-Plate Type): minimum of $478,806 per ton Dry ESP (Wire-Pipe Type): minimum of $303,809 per ton Wet ESP (Wire-Plate Type): minimum of $576,763 per ton Wet ESP (Wire-Pipe Type): minimum of $440,047 per ton Venturi Scrubber: minimum of $1,445,564 per ton

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.0000 PPM TEST PROTOCOL WILL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Oxidation Catalyst Technology and Good Combustion Practices

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit above is 4 ppmvd at 15%O2 and is for EACH CTGHRSG. Startup and shutdown operations are limited to 500 hours per 12-month rolling time period for each CTGHRSG train. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the startup and shutdown emission minimization plan. The efficiency range is 85-90 percent.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 11.7000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2: 0.0600 LB/MMBTU TEST PROTOCOL WILL SPECIFY AVG TIME

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good Combustion Practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limits above are for EACH CTGHRSG. There is also a NSPS natural gas material limit of 20 grains of sulfur per 100 scf.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 4.6000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good Combustion Practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit above is for EACH CTGHRSG. H2SO4 was calculated from manufacturer's data, assuming 100% conversion of SO3 to H2SO4.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 2097001.0000 T/YR 12-MONTH ROLLING TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit above is for EACH CTGHRSG. The proposed permit also contains a 802 lb CO2 per MW-hour (lb/MWh) emission limit that serves as BACT due to energy efficiency, which is equivalent to a net heat rate of 6,855 Btu/kW-hr per 2x1 block and is more stringent than the required NSPS limit of the same units. The amine-based CCS technologies were used since these are generally considered to be the most feasible near-term deployable technology for possible future CO2 removal. CCS is assumed to be about 90 percent effective. Using the lowest capital cost range, the estimated capital cost for CCS for the proposed project is approximately $629,000,000. The cost of a pipeline to transport the CO2 was added to the result to estimate the total capital cost of the CO2 control system. The operating and maintenance and indirect operating costs were estimated to be around $53,000,000. Based on 90 percent CO2 removal and the control being applied to the facility-wide emissions, not just the CTG/HRSG trains, the resulting cost is estimated to be $30/ton and was not considered economically feasible.

Process/Pollutant Information

PROCESS NAME: EUAUXBOILER (Auxiliary Boiler)

Process Type: 12.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: natural gas

Throughput: 182.00 MMBTU/H

Process Notes: One natural gas-fired auxiliary boiler rated at 182 MMBTU/H fuel heat input.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0400 LB/MMBTU TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: An oxidation catalyst is greater than $40,000/ton for CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0400 LB/MMBTU 30 DAY ROLLING AVG TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (B) Low NOx burners/Flue gas recirculation and good combustion practices.

Est. % Efficiency: 70.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Selective catalytic reduction (SCR) is greater than $10,000/ton for NOx.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: At greater than $40,000 for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.3600 LB/H HOURLY, TEST PROTOCOL

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: At greater than $40,000 for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a scrubber and various types of fabric filters.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.3600 LB/H HOURLY, TEST PROTOCOL

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: At greater than $40,000 for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0040 LB/MMBTU TEST PROTOCOL WILL SPECIFY AVG TIME.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: An oxidation catalyst is greater than $40,000/ton for CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.6000 LB/MMSCF BASED ON FUEL RECEIPT RECORDS

Emission Limit 2: 2000.0000 GR/MMSCF BASED UPON FUEL RECEIPT RECORDS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limit 2 above is 2,000 grains of sulfur per MMscf. The natural gas material limit of 2,000 grains of sulfur per MMscf is what the emission factor is based upon.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 93346.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: FGFUELHTR (Two fuel pre-heaters identified as EUFUELHTR1 & EUFUELHTR2)
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural gas
Throughput: 27.00 MMBTU/H
Process Notes: Two natural gas fired dew point heaters for warming the natural gas fuel (EUFUELHTR1 & EUFUELHTR2 in flexible group FGFUELHTR). The total combined heat input during operation shall not exceed 27 MMBTU/H (each) as well. The CO2e limit is for both units combined; however the other limits are per unit.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.2200 LB/H HOURLY; EACH UNIT
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limit of 2.22 lb/hr is for each fuel heater. An oxidation catalyst is greater than $40,000/ton for CO and VOC together, factoring in the redundancy of the heaters (limited joint operation).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 2.6500 LB/H HOURLY; EACH UNIT
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limit of 2.65 lb/hr is for each unit. SCR and low NOx burners are each greater than $18,000/ton for NOx, factoring in the redundancy of the heaters (limited operation).

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0020 LB/MMBTU TEST PROTOCOL WILL SPECIFY AVG TIME.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limit above of 0.002 LB/MMBTU is for each fuel heater. At greater than $40,000 for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 LB/H HOURLY; EACH FUEL HEATER
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: At greater than $40,000 for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 LB/H HOURLY; EACH FUEL HEATER

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: At greater than $40,000 for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.1500 LB/H HOURLY; EACH FUEL HEATER

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: An oxidation catalyst is greater than $40,000/ton for CO and VOC together, factoring in the redundancy of the heaters (limited joint operation).

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 2000.0000 GR/MMSCF BASED UPON FUEL RECEIPT RECORDS.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: NOTE: The limit is 2,000 grains of sulfur per MMscf. The natural gas material limit of 2000 grains of sulfur per MMscf is what the emission factor is based upon.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 13848.0000 T/YR 12-MO ROLLING TIME PERIOD; COMBINED LIMI

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No
Pollutant/Compliance Notes: The CO2e limit is for both units combined.

Process/Pollutant Information

PROCESS NAME: EUEMENGINE (Diesel fuel emergency engine)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel Fuel
Throughput: 22.68 MMBTU/H
Process Notes: a 2,922 horsepower (HP) (2,179 kilowatts (kW)) diesel fueled emergency engine manufactured in 2011 or later and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H TEST PROTOCOL SHALL SPECIFY AVG TIME
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: On average, an oxidation catalyst is greater than $88,000/ton for CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 6.4000 G/KW-H TEST PROTOCOL WILL SPECIFY AVG TIME
Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and meeting NSPS IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The limit is actually in "NMHC + NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 G/KW-H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.5800 LB/H HOURLY

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.5800 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.8700 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: On average, an oxidation catalyst is greater than $88,000/ton for CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER CERTIFICATION RECORDS
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: NOTE: The "Avg. Time/Conditions" for the emission limit of 15 ppm identified above is fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil. The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 928.0000 T/YR 12-MO. ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUFPENGINE (Emergency engine--diesel fire pump)
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 1.66 MMBTU/H
Process Notes: A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6000 G/BHP-H TEST PROTOCOL WILL SPECIFY AVG. TIME
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: On average, an oxidation catalyst is greater than $308,000/ton for CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 3.0000 G/BHP-H TEST PROTOCOL WILL SPECIFY AVG TIME
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit is actually in "NMHC + NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/BHP-H TEST PROTOCOL WILL SPECIFY AVG TIME.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5700 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5700 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.6400 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: On average, an oxidation catalyst is greater than $308,000/ton for CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 15.0000 PPM FUEL SUP. CERT. RECORDS OR SAMPLE TEST
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The Avg. Time/Conditions for the emission limit above is fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil. The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 13.5800 T/YR 12 MO. ROLLING TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

COMPREHENSIVE REPORT
Report Date:07/17/2020

Facility Information

RBLC ID:	OH-0379 (final)	**Date Determination**	
		Last Updated:	06/19/2019
Corporate/Company Name:	PETMIN USA INCORPORATED	**Permit Number:**	P0125024
Facility Name:	PETMIN USA INCORPORATED	**Permit Date:**	02/06/2019 (actual)
Facility Contact:	PALMIRA FARINHA (216)479-6876 PALMIRA@PETMIN.CO.ZA	**FRS Number:**	Not Found
Facility Description:	Merchant Pig Iron Production	**SIC Code:**	3312
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	331111
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	ASHTABULA		
Facility State:	OH		
Facility ZIP Code:	44004		

Permit Issued By: OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name)
MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov

Permit Notes: Initial PTI to convert iron ore pellets to merchant pig iron, including the installation of a process gas heater, electric arc furnace, startup boiler, black start generator, emergency generators, ladle preheaters, quenching & wastewater treatment, material handling and roadways.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Nitrogen Oxides (NOx)	427.8900 (Tons/Year)
Particulate Matter (PM)	26.5700 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Startup boiler (B001)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 15.17 MMBTU/H

Process Notes: Startup boiler, natural gas fired with maximum heat input of 15.17 MMBtu/hr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1130 LB/H SEE NOTES.
Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1130 LB/H SEE NOTES.
Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e

Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1784.0000 LB/H
Emission Limit 2: 7814.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.6340 LB/H
Emission Limit 2: 2.7800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0418 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Low-NOX burners, good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE

Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Plant Roadways (F001)
Process Type: 99.150 (Unpaved Roads)
Primary Fuel:
Throughput: 4195.00 MI/YR
Process Notes: Unpaved plant roadways and parking areas

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2100 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (B) Use of wet suppression and commercial dust suppressants. Develop and implement a site-specific work practice plan designed as described to minimize or eliminate fugitive dust emissions.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0200 T/YR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Use of wet suppression and commercial dust suppressants. Develop and implement a site-specific work practice plan designed as described to minimize or eliminate fugitive dust emissions.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (B) Use of wet suppression and commercial dust suppressants. Develop and implement a site-specific work practice plan designed as described to minimize or eliminate fugitive dust emissions.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: There shall be no visible particulate matter emissions from any unpaved roadways and parking areas except for a period of time not to exceed thirteen (13) minutes during any 60-minute observation period.

Process/Pollutant Information

PROCESS NAME: Process gas heater (P001)

Process Type: 12.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 218.90 MMBTU/H

Process Notes: Process gas preheater, natural gas, indirect fired with maximum heat input of 218.9 MMBtu/hr, emissions are vented to a stack.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.6300 LB/H SEE NOTES.

Emission Limit 2: 7.1400 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.6300 LB/H SEE NOTES.

Emission Limit 2: 7.1400 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 14.0100 LB/H

Emission Limit 2: 61.3600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0640 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Low NOX burners, use of natural gas and good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 25830.2000 LB/H

Emission Limit 2: 113136.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Black Start Generator (P007)

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 158.00 HP

Process Notes: Black start generator, 158 HP diesel engine.

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.2200 X10-3 LB/H

Emission Limit 2: 2.6100 X10-4 T/YR

Standard Emission: 0.0150 G/BHP-H

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Tier IV engine Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.2200 X10-3 LB/H

Emission Limit 2: 2.6100 X10-4 T/YR

Standard Emission: 0.0150 G/BHP-H

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Tier IV engine Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.1040 LB/H
Emission Limit 2: 5.2000 X10-3 T/YR
Standard Emission: 0.3000 G/BHP-H
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Tier IV engine Tier IV NSPS standards certified by engine manufacturer.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Tier IV engine Tier IV NSPS standards certified by engine manufacturer.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 181.7000 LB/H
Emission Limit 2: 9.0900 T/YR
Standard Emission: 522.1000 G/BHP-H
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Tier IV engine Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Quenching & wastewater treatment (P008)
Process Type: 81.900 (Other Ferrous Metal Industry Processes)
Primary Fuel:
Throughput: 0
Process Notes: Quenching & wastewater treatment, equipped with a flare.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0257 LB/H SEE NOTES.

Emission Limit 2: 0.1130 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0257 LB/H SEE NOTES.

Emission Limit 2: 0.1130 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits include both filterable and condensable.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.2350 LB/H
Emission Limit 2: 1.0300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 405.7200 LB/H
Emission Limit 2: 1777.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Electric Arc Furnace (EAF) (P901)

Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel:

Throughput: 0

Process Notes: Electric Arc Furnace, including smelting, tapping, pouring, and casting.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0740 LB/T OF MERCHANT PIG IRON (MPI) PRODUCED

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM10/PM2.5 emissions.

Est. % Efficiency: 99.900

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0061 LB/T OF MERCHANT PIG IRON (MPI) PRODUCED

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM10/PM2.5 emissions.

Est. % Efficiency: 99.900

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 1.4000 LB/T OF MERCHANT PIG IRON (MPI) PRODUCED

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Direct Evacuation Control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 186.4100 LB/T OF MERCHANT PIG IRON (MPI) PRODUCED

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 3.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM10/PM2.5 emissions.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Visible emissions of fugitive dust from this emissions unit shall not exceed six (6) percent opacity as a 6-minute average. Visible particulate emissions from any stack serving this emissions unit shall not exceed three (3) percent opacity as a 6-minute average.

Process/Pollutant Information

PROCESS NAME: Material Handling (P902)

Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel:

Throughput: 788000.00 T/YR

Process Notes: Raw materials handling, including screening and transfer via conveyor system.

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Outdoor material handling operations: covered conveyors and transfer points. Indoor material handling operations at the screen building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5. Indoor material handling operations at the EAF building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Outdoor material handling operations: 0.87 ton/year of fugitive PM10. Indoor material handling operations at the screen building: PM10 emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations. Indoor material handling operations at the EAF building: PM10 emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations.

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Outdoor material handling operations: covered conveyors and transfer points. Indoor material handling operations at the screen building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5. Indoor material handling operations at the EAF building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Outdoor material handling operations: 0.25 ton/year of fugitive PM2.5. Indoor material handling operations at the screen building: PM2.5 emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations. Indoor material handling operations at the EAF building: PM2.5 emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (A) Outdoor material handling operations: covered conveyors and transfer points. Indoor material handling operations at the screen building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5. Indoor material handling operations at the EAF building: use baghouse with a design efficiency of 99.9% for PM10/PM2.5

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Visible emissions of fugitive dust from this emissions unit shall not exceed twenty (20) percent opacity as a three-minute average. Visible particulate emissions from any stack serving this emissions unit shall not exceed twenty (20) percent opacity as a six-minute average, except as provided by the rule.

Process/Pollutant Information

PROCESS NAME: Emergency Generators (P005 and P006)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 3131.00 HP

Process Notes: Two identical Emergency generators, 3131 HP diesel engines. Throughputs and limits are for one generator, except as noted.

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 LB/H

Emission Limit 2: 0.0100 T/YR

Standard Emission: 0.0220 G/BHP-H

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Tier IV engine Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 LB/H

Emission Limit 2: 0.0100 T/YR
Standard Emission: 0.0220 G/BHP-H
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Tier IV engine Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Tier IV engine Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SIP: 20 percent opacity as a 6-minute average, except as specified by rule. NSPS: 20% opacity during the acceleration mode, 15% opacity during the lugging mode, and 50% opacity during the peaks in either the acceleration or lugging modes

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.4500 LB/H
Emission Limit 2: 0.1700 T/YR
Standard Emission: 0.5000 G/BHP-H
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Tier IV engine Tier IV NSPS standards certified by engine manufacturer.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS: 4.8 grams NOx + NMHC/bhp-hr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 3632.0000 LB/H
Emission Limit 2: 181.6000 T/YR
Standard Emission: 526.6000 G/BHP-H
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Tier IV engine Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Ladle Preheaters (P002, P003 and P004)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 15.00 MMBTU/H

Process Notes: Three identical Ladle dryers / preheaters, natural gas fired with maximum heat input of 15.00 MMBtu/hr, emissions are vented to the EAF baghouse. Throughputs and limits are for one preheater, except as noted.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1120 LB/H
Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1120 LB/H
Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 2.1200 LB/H
Emission Limit 2: 9.2900 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1410 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1764.0000 LB/H
Emission Limit 2: 7726.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of natural gas

Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	IL-0130 (final)	**Date Determination Last Updated:**	04/16/2020
Corporate/Company Name:	JACKSON GENERATION, LLC	**Permit Number:**	17040013
Facility Name:	JACKSON ENERGY CENTER	**Permit Date:**	12/31/2018 (actual)
Facility Contact:	JAMES KIEFER 847-908-2833 JKEIFER@POWERUSA.COM	**FRS Number:**	Not Found
Facility Description:	The proposed facility is designed to generate baseload power. It will consist of two combined-cycle generating units, each with a combustion turbine and associated heat recovery steam generator (HRSG). The turbines would only burn natural gas. Other units include an auxiliary boiler, fuel heater, emergency engines, natural gas piping and components, circuit breakers and roadways	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	WILL		
Facility State:	IL		
Facility ZIP Code:	60421		
Permit Issued By:	ILLINOIS EPA, BUREAU OF AIR (Agency Name) MR. RAY PILAPIL(Agency Contact) (217) 782-2113 ray.pilapil@illinois.gov		
Permit Notes:	Additional pollutants: Sulfuric Acid Mist: 48 tons/year; GHG as CO2e: 4,752,085 tons/year		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	226.0000 (Tons/Year)
Nitrogen Oxides (NOx)	294.0000 (Tons/Year)
Particulate Matter (PM)	107.0000 (Tons/Year)
Sulfur Oxides (SOx)	33.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	86.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Combined-Cycle Combustion Turbine

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural Gas

Throughput: 3864.00 mmBtu/hr

Process Notes: Combined-cycle combustion turbines with heat recovery steam generator (HRSG). Turbines will have inlet evaporative cooling systems to cool inlet air during warm weather to increase power output.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMV 3-UNIT OPERATING HOURS @ 15% O2

Emission Limit 2: 2.0000 PPMV 1-UNIT OPERATING HOUR @ 15% O2

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER

Other Applicable Requirements:

Control Method: (A) Selective Catalytic Reduction (SCR) and low-NOx technology (dry low-NOx combustion technology)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is applicable for first 36 months of operation. Emission Limit 2 is applicable beginning 36 months after commissioning of turbines. Pounds/hour limits without duct burner are: 30.5 (normal operation), 180.3 (startup/shutdown/commissioning) and 91.5 (tuning). Pounds/hour limits with duct burner are: 33.9 (normal operation, 33.9 (startup/shutdown/commissioning) and 91.5 (tuning). All pounds/hour limits for normal operation apply on a 3-hour average. Pounds/hour limits for startup/shutdown/commissioning and tuning apply on a 1-hour average. See also Condition 2.1.6(a)(iv) of the issued permit.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.0000 PPMV 3 OPERATING HOUR AVERAGE @ 15% O2

Emission Limit 2: 211.5000 PPMV 3 OPERATING HOUR AVERAGE @ 15% O2

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limits 1 is applicable when operating with duct burner. Emission Limit 2 is applicable without the duct burner, after 36 months from initial operation. Pounds/hour limit without duct burner is 30.5, 3-hour average. Pounds/hour limit with duct burner is 33,9, 3-hour average. Emission Limits 1 and 2 and pounds/hour limits do not apply during startup/shutdown/commissioning and tuning. Pounds/hour limit for startup/shutdown/commissioning is 483.5. Pounds/hour limit for tuning is 239. Pounds/hour limit for period of very low load is 20.6

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0026 LB/MMBTU 3-HR BLOCK AVERAGE

Emission Limit 2: 0.0042 LB/MMBTU 3-HR BLOCK AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is applicable to PM. Emission Limit 2 is applicable to PM10/PM2.5. For PM, pounds/hour emission limits for startup/shutdown/commissioning are 11.5 (without duct burner) and 12.3 (with duct burner). For PM10/PM2.5, pounds/hour emission limits for startup/shutdown/commissioning are 12.4 (without duct burner) and 19.8 (with duct burner)

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 5.0000 POUNDS/HOUR 3-HR BLOCK AVG

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 4733910.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Equipment design and proper operation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: CO2 emissions of each turbine shall not exceed 1,000 lb/MWh of gross energy output, or, alternatively, 1,030 lb/MWh of net energy output on a 12-month rolling average basis.

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural Gas
Throughput: 96.00 mmBtu/hr
Process Notes: The auxiliary boiler is used on an intermittent basis (up to 2,000 hours/year) to produce intermediate pressure steam for heating the heat recovery steam generators (HRSGs) and steam turbines

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0100 LB/MMBTU 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements:
Control Method: (B) Ultra low-NOx burners and flue gas recirculation air preheater, automated combustion management systems, automated water blowdown, good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0370 LB/MMBTU 3-HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU 3-HOUR AVERAGE
Emission Limit 2: 0.0019 LB/MMBTUD 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission Limit 1 applies to PM10/PM2.5. Emission Limit 2 applies to PM.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.1000 POUNDS/HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 11250.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Fuel Heater

Process Type: 19.600 (Misc. Boilers, Furnaces, Heaters)

Primary Fuel: Natural Gas

Throughput: 13.00 mmBtu/hour

Process Notes: Indirectly heats the natural gas fuel for the combustion turbines. This natural gas must be heated to counteract the cooling the cooling that occurs when the pressure of the gas is reduced.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0110 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (A) Low-NOx combustion technology
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0800 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission Limit 1 applies for PM, PM10 and PM2.5

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Cond. Test Mthd 013B
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0140 POUNDS/HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 6700.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Firewater Pump Engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Ultra-Low Sulfur Diesel
Throughput: 420.00 horsepower
Process Notes: One engine will power the pump in the firewater system. The fuel must meet the requirements of 40 CFR 80.510(b) pursuant to 40 CFR 60.4207(b).

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 4.0000 G/KW-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: LAER

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS Subpart IIII limit of 4.0 g/kW-hr is LAER

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 3.5000 G/KW-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS Subpart IIII limit of 3.5 g/kW-hr is BACT

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 G/KW-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS Subpart IIII emission limit of 0.20 g/kW-hr is BACT. This limit applies to PM/PM10/PM2.5

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 241.0000 TONS/YEAR 12-MONTH ROLLING AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 applies for firewater pump engine and emergency engine

Process/Pollutant Information

PROCESS NAME: Emergency Engine

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Ultra-Low Sulfur Diesel

Throughput: 1500.00 kW

Process Notes: One large emergency engine-generator at the plant; one small emergency engine-generator at the switchyard. Fuel must meet the requirements at 40 CFR 80.510(b) pursuant to 40 CFR 60.4207(b)

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 6.4000 G/KW-HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII limit of 6.4 g/kW-hr is LAER

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-HR
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII limit of 3.5 g/kW-hr is BACT

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII limit of 0.20 g/kW-hr is BACT

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 225.0000 TONS/YEAR
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Applies as combination of emergency engine and fire pump engine

Process/Pollutant Information

PROCESS NAME: Natural Gas Piping and Components
Process Type: 50.001 (Oil and Gas Field Services)
Primary Fuel:
Throughput: 0
Process Notes: Methane may leak from components, such as flanges and valves

POLLUTANT NAME: Methane
CAS Number: 74-82-8
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)
Emission Limit 1: 4.3000 TONS/YEAR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Leak Detection and Repair Program (LDAR), use of "leakless" components.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Use 40 CFR 60 Subpart VVa methods. A leak is a methane concentration of 2000 ppm or more

Process/Pollutant Information

PROCESS NAME: Circuit Breakers

Process Type: 99.999 (Other Miscellaneous Sources)

Primary Fuel:

Throughput: 0

Process Notes: Electric switchgear includes circuit breakers that uses gaseous sulfur hexafluoride (SF6) as a dielectric or insulating material. Emissions may result from SF6 leaks.

POLLUTANT NAME: Sulfur Hexafluoride

CAS Number: 2551-62-4

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 0.5000 PERCENT LEAK RATE CALENDAR YEAR AVERAGE

Emission Limit 2: 10.0000 POUNDS/YEAR 12-MONTH ROLLING AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Compliance with limits demonstrated using methods in 40 CFR 98 Subpart DD.

Process/Pollutant Information

PROCESS NAME: Roadways

Process Type: 99.140 (Paved Roads)

Primary Fuel:

Throughput: 0

Process Notes: Roadways that serve trucks delivering bulk materials, e.g., deionized water for the combustion turbines or selective catalytic reduction (SCR) reagent.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 10.0000 PERCENT OPACITY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Paving required for roads used by trucks that transport bulk materials.

Facility Information

RBLC ID:	OH-0378 (final)	**Date Determination**	
		Last Updated:	06/19/2019
Corporate/Company Name:	PTTGCA PETROCHEMICAL COMPLEX	**Permit Number:**	P0124972
Facility Name:	PTTGCA PETROCHEMICAL COMPLEX	**Permit Date:**	12/21/2018 (actual)
Facility Contact:	PAUL WOJCIECHOWSKI (713)871-5730 PAUL.W@PTTGCAMERICA.COM	**FRS Number:**	Not Found
Facility Description:	Petrochemical Complex	**SIC Code:**	2869
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	325110
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	BELMONT		
Facility State:	OH		

Facility ZIP Code: 43947

Permit Issued By: OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name)
MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov

Permit Notes: Initial installation permit for a world-scale petrochemical complex composed of ethylene and ethylene-based derivative plants to manufacture high-density polyethylene (HDPE) and linear low-density polyethylene/HDPE (LLDPE/HDPE) with the following design capacities: Ethylene Plant: 1,500 KT/year; HDPE Units: two (2) trains of 350 KT/year for each train; and LLDPE/HDPE Units: two (2) trains of 450 KT/year for each train. The petrochemical complex will also involve onsite railcar and truck loading, supporting utilities, infrastructure, storage tanks, logistics facilities, and facilities to produce and/or provide required natural gas, water, air, nitrogen, steam, and electricity to support the operation of process units.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	544.0000 (Tons/Year)
Nitrogen Oxides (NOx)	164.0000 (Tons/Year)
Particulate Matter (PM)	120.0000 (Tons/Year)
Sulfur Oxides (SOx)	23.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	396.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Ethane Cracking Furnaces, 6 identical (B001 - B006)

Process Type: 11.390 (Other Gaseous Fuel & Gaseous Fuel Mixtures)

Primary Fuel: Tail gas and natural gas

Throughput: 552.00 MMBTU/H

Process Notes: Six identical Ethane Cracking Furnaces 1 through 6; 552 MMBtu/hour cracking furnace burning tail gas, natural gas and ethane (backup only) equipped with low-NOx burners (LNBs) and controlled by selective catalytic reduction (SCR). Limits are for single furnace except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0135 LB/MMBTU HOURLY MAXIMUM. SEE NOTES.

Emission Limit 2: 7.4500 LB/H SEE NOTES.

Standard Emission: 0.0100 LB/MMBTU AS ROLLING 12-MONTH AVG. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) low-NOx burners and SCR with a control efficiency of at least 90%

Est. % Efficiency: 90.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 0.0135 lb/MMBtu as an hourly maximum during normal operation and 7.45 lbs/hr, excluding periods of startup, shutdown and hot steam standby. 0.010 lb/MMBtu as a rolling, 12-month average, excluding periods of startup, shutdown and hot steam standby. 0.015 lb/MMBtu as a 3-hour average and 2.18 lbs/hr during decoking. 0.050 lb/MMBtu as a three-hour average and 7.20 lbs/hr during periods of startup, shutdown and hot steam standby. 144.00 tons of NOx per rolling, 12-month period for B001-B006, combined.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Other

Other Test Method: CEM

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 19.3200 LB/H SEE NOTES.

Emission Limit 2: 5.0800 LB/H DURING DECOKING. SEE NOTES.

Standard Emission: 0.0350 LB/MMBTU AS ROLLING 12-MONTH AVG. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Proper burner design and good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.035 lb/MMBtu as a 12-month rolling average and 19.32 lbs/hr. 5.08 lbs/hr during decoking. 500.00 tons of CO per rolling, 12-month period for B001-B006, combined.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.4200 LB/H

Emission Limit 2: 122.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 0.0080 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Proper burner design and good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 122.00 tons of VOC per rolling, 12-month period for B001-B006, combined.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0190 LB/MMBTU DURING DECOKING. SEE NOTES

Emission Limit 2: 2.7600 LB/H SEE NOTES.

Standard Emission: 0.0050 LB/MMBTU EXCLUDING DECOKING. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) All modes except decoking: Proper burner design and good combustion practices. Decoking: Good combustion and operating practices to limit the decoking event of each cracking furnace to maximum of 10 times a year (totally 360 hours per year each furnace) and recycling of decoking vent stream to furnace firebox.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 72.59 tons of PE per rolling, 12-month period for B001-B006, combined.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0100 LB/MMBTU DURING DECOKING. SEE NOTES.

Emission Limit 2: 2.7600 LB/H EXCLUDING DECOKING. SEE NOTES.

Standard Emission: 0.0050 LB/MMBTU EXCLUDING DECOKING. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) All modes except decoking: Proper burner design and good combustion practices. Decoking: Good combustion and operating practices to limit the decoking event of each cracking furnace to maximum of 10 times a year (totally 360 hours per year each furnace) and recycling of decoking vent stream to furnace firebox.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.005 lb/MMBtu and 2.76 lbs/hr, excluding periods of decoking. 0.010 lb/MMBtu and 1.45 lbs/hr during decoking. 71.89 tons per rolling, 12-month period for B001-B006, combined

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0100 LB/MMBTU DURING DECOKING. SEE NOTES.

Emission Limit 2: 2.7600 LB/H EXCLUDING DECOKING. SEE NOTES.

Standard Emission: 0.0050 LB/MMBTU EXCLUDING DECOKING. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) All modes except decoking: Proper burner design and good combustion practices. Decoking: Good combustion and operating practices to limit the decoking event of each cracking furnace to maximum of 10 times a year (totally 360 hours per year each furnace) and recycling of decoking vent stream to furnace firebox.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.005 lb/MMBtu and 2.76 lbs/hr, excluding periods of decoking. 0.010 lb/MMBtu and 1.45 lbs/hr during decoking. 71.89 tons per rolling, 12-month period for B001-B006, combined.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1673240.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of low carbon gaseous fuels, good combustion and operating practices, and pollution prevention means by improving energy efficiency

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 1,673,240 tons of carbon dioxide equivalents (CO2e) per rolling, 12-month period for B001-B006, combined.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) All modes except decoking: Proper burner design and good combustion practices. Decoking: Good combustion and operating practices to limit the decoking event of each cracking furnace to maximum of 10 times a year (totally 360 hours per year each furnace) and recycling of decoking vent stream to furnace firebox.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Natural Gas and Ethane-Fired Steam Boilers (B007 - B009)

Process Type: 11.390 (Other Gaseous Fuel & Gaseous Fuel Mixtures)

Primary Fuel: Natural gas and ethane

Throughput: 400.00 MMBTU/H

Process Notes: Three identical Steam Boilers 1 through 3; natural gas and ethane-fired steam boiler equipped with ultra-low-NOx burners and flue gas recirculation (FGR) with a maximum fuel input rating of 400 million BTU/hour and an average fuel input rating of 160 MMBtu/hour. Limits are for single boiler except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Other

Other Test Method: CEM

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0200 LB/MMBTU DURING STARTUP AND SHUTDOWN. SEE NOTES.

Emission Limit 2: 4.0000 LB/H AS ROLLING 30-DAY AVG. SEE NOTES.

Standard Emission: 0.0100 LB/MMBTU AS ROLLING 30-DAY AVG. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) ultra-low NOx burners (ULNB) and flue gas recirculation (FGR)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.010 lb/MMBtu of actual heat input as a rolling, 30-day average and 4.00 lbs/hr, excluding periods of startup and shutdown. 0.020 lb/MMBtu of actual heat input and 8.00 lbs/hr during periods of startup and shutdown. 8.76 tons of NOx per rolling, 12-month period from B007-B009, combined.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Other
Other Test Method: CEM
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 14.0000 LB/H
Emission Limit 2: 30.7000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 0.0350 LB/MMBTU AS ROLLING 12-MONTH AVG. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Proper burner design, good combustion practices and use of only natural gas with ethane backup
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.035 lb/MMBtu of actual heat input as a rolling, 12-month average and 14.00 lbs/hr. 30.70 tons of CO per rolling, 12-month period from B007-B009, combined.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25A
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 2.1600 LB/H
Emission Limit 2: 4.7300 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 0.0054 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Proper burner design, good combustion practices and use of only natural gas with ethane backup
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 4.73 tons of VOC per rolling, 12-month period for B007-B009, combined.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: EPA/OAR Mthd 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.0000 LB/H
Emission Limit 2: 4.3800 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 0.0050 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Proper burner design, good combustion practices and use of only natural gas with ethane backup
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 4.38 tons per rolling, 12-month period for B007-B009, combined.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.0000 LB/H
Emission Limit 2: 4.3800 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 0.0050 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Proper burner design, good combustion practices and use of only natural gas with ethane backup
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 4.38 tons per rolling, 12-month period for B007-B009, combined.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Other
Other Test Method: Methods 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.0000 LB/H
Emission Limit 2: 4.3800 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 0.0050 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Proper burner design, good combustion practices and use of only natural gas with ethane backup
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 4.38 tons per rolling, 12-month period for B007-B009, combined.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 102500.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low carbon intensity gaseous fuels, good combusting and operating practices, and efficiency improvement measures to maximize overall unit energy efficiency.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 102,500 tons of carbon dioxide equivalents (CO2e) per rolling, 12-month period for B007-B009, combined.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Proper burner design, good combustion practices and use of only natural gas with ethane backup

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Ethylene Manufacturing Unit (P801)

Process Type: 63.999 (Other Polymer and Resin Manufacturing Sources)

Primary Fuel:

Throughput: 0

Process Notes: 1,500 KTA ethylene manufacturing process; includes feed preheating, cracking, quenching, compression, caustic scrubbing, precooling/drying, separation, and hydrogenation. Process vents, storage tanks, and startup/shutdown/maintenance/upsets controlled by flare and thermal oxidizer.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) high pressure (HP) flare achieving a destruction efficiency of 98% for VOC emissions and thermal oxidizer (TO) achieving a destruction efficiency of 99.5% for VOC emissions. See notes.

Est. % Efficiency: 99.500

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: (a) use of closed vent systems controlled with high pressure (HP) flare (emission unit P003) achieving a destruction efficiency of 98% for VOC emissions from the following: (i) startup/shutdown/maintenance/upsets; (ii) spent caustic degassing drum; (iii) spent caustic drain drum; and (iv) pressure relief valve (PRV) leaks/releases. (b) use of thermal oxidizer (TO, emission units P001 and P002) achieving a destruction efficiency of 99.5% for VOC emissions from the following: (i) quench water drain drum; (ii) wet air oxidation unit; (iii) dimethyl disulphide (DMDS) tank; and (iv) wash oil tank; (c) tail gas from the hydrogenation section shall be used as fuel gas for firing in process cracking furnace(s); (d) implementation of a facility specific program reducing fugitive component equipment leaks for applicable component equipment in the ethylene manufacturing unit; (e) implementation of a program to minimize flaring.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Implementation of a facility specific program reducing fugitive component equipment leaks for applicable component equipment in the ethylene manufacturing unit. See emission unit P807 (Fugitive Emissions).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: High-Density Polyethylene Manufacturing Unit #1 (P802)

Process Type: 63.999 (Other Polymer and Resin Manufacturing Sources)

Primary Fuel:

Throughput: 0

Process Notes: 350 KTA high density polyethylene (HDPE) manufacturing process; includes catalyst activation & feed systems, reactor system, separation/degassing, solvent recovery and pelletizing sections, pellet blending, handling, and storage.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0980 LB/MMBTU SEE NOTES.
Emission Limit 2: 0.5100 LB/H SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits represent combustion emissions associated with the jackets of two catalyst activator furnaces. 4.47 tons per rolling 12-month period for the two activator furnaces combined.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0820 LB/MMBTU SEE NOTES.
Emission Limit 2: 0.4300 LB/H SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limitations represent combustion emissions associated with the jackets of two catalyst activator furnaces. 3.74 tons per rolling 12-month period for the two activator furnaces combined.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0054 LB/MMBTU SEE NOTES.

Emission Limit 2: 0.0300 LB/H SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Use of closed vent system controlled with high pressure (HP) flare achieving a destruction efficiency of 98% for VOC emissions, use of thermal oxidizer (TO) achieving a destruction efficiency of 99.5% for VOC emissions, implementation of facility specific program reducing fugitive component equipment leaks including applicable component equipment in the polyethylene manufacturing line and implementation of a program to minimize flaring.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: For combustion emissions associated with the jackets of two catalyst activator furnaces: (i) 0.0054 lb/MMBtu; (ii) 0.03 lb/hr (for each individual furnace); and (iii) 0.25 ton per rolling 12-month period for two activator furnaces combined. For HDPE manufacturing process for VOC emissions other than the catalyst activation furnace combustion emissions: i. use of closed vent system controlled with high pressure (HP) flare achieving a destruction efficiency of 98% for VOC emissions from the following: (a) intermediate flash slurry sampler; (b) LSR lights condenser; (c) heavies column; and (d) pressure relief valve (PRV) leaks/releases; ii. use of thermal

oxidizer (TO) achieving a destruction efficiency of 99.5% for VOC emissions from the following: (a) LPSR condensate separator; and (b) powder conveying package vent; iii. residual VOC in the polyethylene resin exiting the extruder shall be less than 80 ppmv; iv. The combined VOC emissions for all HDPE manufacturing process vents without VOC control (e.g. not vented to flare or TO) shall not exceed 28.00 tons per rolling 12-month period; v. implementation of facility specific program reducing fugitive component equipment leaks including applicable component equipment in the polyethylene manufacturing line (see C.12.b)(2)b. and c.); and vi. implementation of a program to minimize flaring.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for two catalyst activator jacket vents, two catalyst filter vents, extruder vent, additive vent, six additive feeder vents. Fabric filtration at 0.002 gr/dscf for pellet conveying hopper vent, pellet hopper vent, 24 pellet & off-spec blender/silo vents, and pellet dryer fan vent (only vent requiring stack test). Catalyst activation system vents associated with co-catalyst container changes shall be controlled by passing vent streams through a seal pot containing mineral oil resulting only in emissions of nitrogen gas used in co-catalyst transfer.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Combustion emissions associated with the jackets of two catalyst activator furnaces: 0.0075 lb/MMBtu, 0.04 lb/h (each individual furnace), 0.34 ton per rolling 12-month period for two activator furnaces combined. Catalyst activator jacket vents (R-201A and B): 0.005 gr/dscf, 0.10 lb/h and 0.44 ton per rolling 12-month period. Catalyst filter vents (S-203A and B): 0.005 gr/dscf, 0.0015 lb/hr and 0.006 ton per rolling 12-month period. Extruder vent filter (3S-603): 0.005 gr/dscf, 0.015 lb/hr and 0.065 ton per rolling 12-month period. Additive vent filter (3S-604): 0.005 gr/dscf, 0.04 lb/hr and 0.175 ton per rolling 12-month period. Additive feeder vents (3Q-602A through F): 0.005 gr/dscf, 0.001 lb/hr and 0.0044 ton per rolling 12-month period for each individual vent (6 individual vents). Pellet conveying hopper vent (3V-607): 0.002 gr/dscf, 0.004 lb/hr and 0.0175 ton per rolling 12-month period. Pellet hopper vent (3V-702): 0.002 gr/dscf, 0.06 lb/hr and 0.263 tons per rolling 12-month period. Pellet & off-spec blender/silo vents (3V-701A through E) & (PE1-19): 0.002 gr/dscf, 0.036 lb/hr & 0.162 ton per rolling 12-month period for six vents combined. Pellet dryer fan vent (3C-603): 0.002 gr/dscf, 0.134 lb/hr

& 0.587 ton per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for two catalyst activator jacket vents, two catalyst filter vents, extruder vent, additive vent, six additive feeder vents. Fabric filtration at 0.002 gr/dscf for pellet conveying hopper vent, pellet hopper vent, 24 pellet & off-spec blender/silo vents, and pellet dryer fan vent (only vent requiring stack test). Catalyst activation system vents associated with co-catalyst container changes shall be controlled by passing vent streams through a seal pot containing mineral oil resulting only in emissions of nitrogen gas used in co-catalyst transfer.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Combustion emissions associated with the jackets of two catalyst activator furnaces: 0.0075 lb/MMBtu, 0.04 lb/h (each individual furnace), 0.34 ton per rolling 12-month period for two activator furnaces combined. Catalyst activator jacket vents (R-201A and B): 0.005 gr/dscf, 0.10 lb/h and 0.44 ton per rolling 12-month period. Catalyst filter vents (S-203A and B): 0.005 gr/dscf, 0.0015 lb/hr and 0.006 ton per rolling 12-month period. Extruder vent filter (3S-603): 0.005 gr/dscf, 0.015 lb/hr and 0.065 ton per rolling 12-month period. Additive vent filter (3S-604): 0.005 gr/dscf, 0.04 lb/hr and 0.175 ton per rolling 12-month period. Additive feeder vents (3Q-602A through F): 0.005 gr/dscf, 0.001 lb/hr and 0.0044 ton per rolling 12-month period for each individual vent (6 individual vents). Pellet conveying hopper vent (3V-607): 0.002 gr/dscf, 0.004 lb/hr and 0.0175 ton per rolling 12-month period. Pellet hopper vent (3V-702): 0.002 gr/dscf, 0.06 lb/hr and 0.263 tons per rolling 12-month period. Pellet & off-spec blender/silo vents (3V-701A through E) & (PE1-19): 0.002 gr/dscf, 0.036 lb/hr & 0.162 ton per rolling 12-month period for six vents combined. Pellet dryer fan vent (3C-603): 0.002 gr/dscf, 0.134 lb/hr & 0.587 ton per rolling 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (A) Fabric filtration at 0.005 gr/dscf for two catalyst activator jacket vents, two catalyst filter vents, extruder vent, additive vent, six additive feeder vents. Fabric filtration at 0.002 gr/dscf for pellet conveying hopper vent, pellet hopper vent, 24 pellet & off-spec blender/silo vents, and pellet dryer fan vent (only vent requiring stack test). Catalyst activation system vents associated with co-catalyst container changes shall be controlled by passing vent streams through a seal pot containing mineral oil resulting only in emissions of nitrogen gas used in co-catalyst transfer.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Visible particulate emissions from each process vent stack controlled with fabric filtration shall not exceed five percent opacity, as a six-minute average. No visible emissions of fugitive particulate from the discharge of co-catalyst material to the atmospheric sand pit. SIP: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 117.0000 LB/MMBTU

Emission Limit 2: 5335.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Low carbon intensity gaseous fuels, good combusting and operating practices, and efficiency improvement measures to maximize overall unit energy efficiency.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 5335 t/yr per rolling 12-month period for two activator furnaces combined.

Process/Pollutant Information

PROCESS NAME: High-Density Polyethylene Manufacturing Unit #2 (P803)
Process Type: 63.999 (Other Polymer and Resin Manufacturing Sources)
Primary Fuel:
Throughput: 0
Process Notes: 350 KTA high density polyethylene (HDPE) manufacturing process; includes catalyst activation & feed systems, reactor system, separation/degassing, solvent recovery and pelletizing sections, pellet blending, handling, and storage.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 117.0000 LB/MMBTU
Emission Limit 2: 5335.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low carbon intensity gaseous fuels, good combusting and operating practices, and efficiency improvement measures to maximize overall unit energy efficiency.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 5335 t/yr per rolling 12-month period for two activator furnaces combined.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0820 LB/MMBTU SEE NOTES.
Emission Limit 2: 0.4300 LB/H SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission limitations represent combustion emissions associated with the jackets of two catalyst activator furnaces. 3.74 tons per rolling 12-month period for the two activator furnaces combined.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0980 LB/MMBTU SEE NOTES.
Emission Limit 2: 0.5100 LB/H SEE NOTES.
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits represent combustion emissions associated with the jackets of two catalyst activator furnaces. 4.47 tons per rolling 12-month period for the two activator furnaces combined.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for two catalyst activator jacket vents, two catalyst filter vents, extruder vent, additive vent, six additive feeder vents. Fabric filtration at 0.002 gr/dscf for pellet conveying hopper vent, pellet hopper vent, 24 pellet & off-spec blender/silo vents, and pellet dryer fan vent (only vent requiring stack test). Catalyst activation system vents associated with co-catalyst container changes shall be controlled by passing vent streams through a seal pot containing mineral oil resulting only in emissions of nitrogen gas used in co-catalyst transfer.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Combustion emissions associated with the jackets of two catalyst activator furnaces: 0.0075 lb/MMBtu, 0.04 lb/h (each individual furnace), 0.34 ton per rolling 12-month period for two activator furnaces combined. Catalyst activator jacket vents (R-201A and B): 0.005 gr/dscf, 0.10 lb/h and 0.44 ton per rolling 12-month period. Catalyst filter vents (S-203A and B): 0.005 gr/dscf, 0.0015 lb/hr and 0.006 ton per rolling 12-month period. Extruder vent filter (3S-603): 0.005 gr/dscf, 0.015 lb/hr and 0.065 ton per rolling 12-month period. Additive vent filter (3S-604): 0.005 gr/dscf, 0.04 lb/hr and 0.175 ton per rolling 12-month period. Additive feeder vents (3Q-602A through F): 0.005 gr/dscf, 0.001 lb/hr and 0.0044 ton per rolling 12-month period for each individual vent (6 individual vents). Pellet conveying hopper vent (3V-607): 0.002 gr/dscf, 0.004 lb/hr and 0.0175 ton per rolling 12-month period. Pellet hopper vent (3V-702): 0.002 gr/dscf, 0.06 lb/hr and 0.263 tons per rolling 12-month period. Pellet & off-spec blender/silo vents (3V-701A through E) & (PE1-19): 0.002 gr/dscf, 0.036 lb/hr & 0.162 ton per rolling 12-month period for six vents combined. Pellet dryer fan vent (3C-603): 0.002 gr/dscf, 0.134 lb/hr & 0.587 ton per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for two catalyst activator jacket vents, two catalyst filter vents, extruder vent, additive vent, six additive feeder vents. Fabric filtration at 0.002 gr/dscf for pellet conveying hopper vent, pellet hopper vent, 24 pellet & off-spec blender/silo vents, and pellet dryer fan vent (only vent requiring stack test). Catalyst activation system vents associated with co-catalyst container changes shall be controlled by passing vent streams through a seal pot containing mineral oil resulting only in emissions of nitrogen gas used in co-catalyst transfer.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Combustion emissions associated with the jackets of two catalyst activator furnaces: 0.0075 lb/MMBtu, 0.04 lb/h (each individual furnace), 0.34 ton per rolling 12-month period for two activator furnaces combined. Catalyst activator jacket vents (R-201A and B): 0.005 gr/dscf, 0.10 lb/h and 0.44 ton per rolling 12-month period. Catalyst filter vents (S-203A and B): 0.005 gr/dscf, 0.0015 lb/hr and 0.006 ton per rolling 12-month period. Extruder vent filter (3S-603): 0.005 gr/dscf, 0.015 lb/hr and 0.065 ton per rolling 12-month period. Additive vent filter (3S-604): 0.005 gr/dscf, 0.04 lb/hr and 0.175 ton per rolling 12-month period. Additive feeder vents (3Q-602A through F): 0.005 gr/dscf, 0.001 lb/hr and 0.0044 ton per rolling 12-month period for each individual vent (6 individual vents). Pellet conveying hopper vent (3V-607): 0.002 gr/dscf, 0.004 lb/hr and 0.0175 ton per rolling 12-month period. Pellet hopper vent (3V-702): 0.002 gr/dscf, 0.06 lb/hr and 0.263 tons per rolling 12-month period. Pellet & off-spec blender/silo vents (3V-701A through E) & (PE1-19): 0.002 gr/dscf, 0.036 lb/hr & 0.162 ton per rolling 12-month period for six vents combined. Pellet dryer fan vent (3C-603): 0.002 gr/dscf, 0.134 lb/hr & 0.587 ton per rolling 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (A) Fabric filtration at 0.005 gr/dscf for two catalyst activator jacket vents, two catalyst filter vents, extruder vent, additive vent, six additive feeder vents. Fabric filtration at 0.002 gr/dscf for pellet conveying hopper vent, pellet hopper vent, 24 pellet & off-spec blender/silo vents, and pellet dryer fan vent (only vent requiring stack test). Catalyst activation system vents associated with co-catalyst container changes shall be controlled by passing vent streams through a seal pot containing mineral oil resulting only in emissions of nitrogen gas used in co-catalyst transfer.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Visible particulate emissions from each process vent stack controlled with fabric filtration shall not exceed five percent opacity, as a six-minute average. No visible emissions of fugitive particulate from the discharge of co-catalyst material to the atmospheric sand pit. SIP: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0054 LB/MMBTU SEE NOTES.

Emission Limit 2: 0.0300 LB/H SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Use of closed vent system controlled with high pressure (HP) flare achieving a destruction efficiency of 98% for VOC emissions, use of thermal oxidizer (TO) achieving a destruction efficiency of 99.5% for VOC emissions, implementation of facility specific program reducing fugitive component equipment leaks including applicable component equipment in the polyethylene manufacturing line and implementation of a program to minimize flaring.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: For combustion emissions associated with the jackets of two catalyst activator furnaces: (i) 0.0054 lb/MMBtu; (ii) 0.03 lb/hr (for each individual furnace); and (iii) 0.25 ton per rolling 12-month period for two activator furnaces combined. For HDPE manufacturing process for VOC emissions other than the catalyst activation furnace combustion emissions: i. use of closed vent system controlled with high pressure (HP) flare achieving a destruction efficiency of 98% for VOC emissions from the following: (a) intermediate flash slurry sampler; (b) LSR lights condenser; (c) heavies column; and (d) pressure relief valve (PRV) leaks/releases; ii. use of thermal oxidizer (TO) achieving a destruction efficiency of 99.5% for VOC emissions from the following: (a) LPSR condensate separator; and (b) powder conveying package vent; iii. residual VOC in the polyethylene resin exiting the extruder shall be less than 80 ppmv; iv. The combined VOC emissions for all HDPE manufacturing process vents without VOC control (e.g. not vented to flare or TO) shall not exceed 28.00 tons per rolling 12-month period; v. implementation of facility specific program reducing fugitive component equipment leaks including applicable component equipment in the polyethylene manufacturing line (see C.12.b)(2)b. and c.); and vi. implementation of a program to minimize flaring.

Process/Pollutant Information

PROCESS NAME: Linear Low/High-Density Polyethylene Manufacturing Unit #3 (P804)

Process Type: 63.999 (Other Polymer and Resin Manufacturing Sources)

Primary Fuel:

Throughput: 0

Process Notes: 450 KTA linear low-density polyethylene (LLDPE)/high density polyethylene (HDPE) manufacturing process; includes purification (ethylene & raw material), catalyst system, reactor system, resin degassing and vent recovery, seed bed & granular storage system, and additive handling and pelletizing.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 80.0000 PPM BY VOLUME. SEE NOTES.

Emission Limit 2: 36.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Thermal oxidizer with a destruction efficiency of 99.5% from analyzer vents, degassing column vents, ethylene purification, low product purge bin vent filter, and high pressure accumulator vent. Closed vent system controlled with flare (high pressure (HP) and/or low pressure (LP)) with a destruction efficiency of 98% from butene dryer regen vent, hexene dryer regen vent, ICA dryer regen vent, ethylene deoxo regen vent, ethylene dryers regen vent, ethylene systems shutdown, non-emergency reactor vents, and product purge bin vent filter. Pressure safety valve (PSV) leaks/releases from raw materials supply pressure PSVs, purification PSVs, reaction PSVs, resin degassing PSVs, and vent recovery PSVs. Implementation of facility specific program reducing fugitive component equipment leaks including applicable component equipment in the polyethylene manufacturing line. Implementation of a program to minimize flaring.

Est. % Efficiency: 99.500

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Residual VOC in the polyethylene resin exiting the granular resin surge hopper shall be less than 80 ppmv. The combined VOC emissions for all LLDPE/HDPE manufacturing process vents without VOC control (e.g. not vented to flare or TO) shall not exceed 36.00 tons per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for the catalyst vent filter (Y-4901) and receiver bin filter vent (Y-5657) & seed bed filter vents (Y-5651 through 5655). Fabric filtration at 0.002 gr/dscf for granular resin surge hopper vent filter (D-6210), bag dump stations/dump hoppers vent filter (Y-6231 through 6235), talc surge bin filter (Y-6251), mixer vent filter (Y-6260), pellet conveying hopper (PE3-07), pellet hopper (PE3-08), and pellet blending/off-spec blending silos (PE3-09 through PE3-15). Pellet dryer vent (Y-7010) shall not exceed a maximum outlet concentration of 0.002 gr/dscf.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Catalyst vent filter (Y-4901): 0.005 gr/dscf, 0.035 lb/hr and 0.153 ton per rolling 12-month period. Receiver bin filter vent (Y-5657) & seed bed filter vents (Y-5651 through 5655): 0.005 gr/dscf, 0.08 lb/hr and 0.35 ton per rolling 12-month period. Granular resin surge hopper vent filter (D-6210): 0.002 gr/dscf, 0.042 lb/hr and 0.184 ton per rolling 12-month period. Bag dump stations/dump hoppers vent filter (Y-6231 through 6235): 0.002 gr/dscf, 0.0515 lb/hr and 0.226 ton per rolling 12-month period. Talc surge bin filter (Y-6251): 0.002 gr/dscf, 0.012 lb/hr and 0.053 ton per rolling 12-month period. Mixer vent filter (Y-6260): 0.002 gr/dscf, 0.009 lb/hr and 0.039 ton per rolling 12-month period. Pellet conveying hopper (PE3-07): 0.002 gr/dscf, 0.004 lb/hr and 0.018 ton per rolling 12-month period. Pellet hopper (PE3-08): 0.002 gr/dscf, 0.06 lb/hr and 0.26 ton per rolling 12-month period. Pellet blending/off-spec blending silos (PE3-09 through PE3-15): 0.002 gr/dscf, 0.048 lb/hr and 0.208 ton per rolling 12-month period for all vents combined. Pellet dryer vent (Y-7010) shall not exceed a maximum outlet concentration of 0.002 gr/dscf, 0.05 lb/hr and 0.11 ton per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for the catalyst vent filter (Y-4901) and receiver bin filter vent (Y-5657) & seed bed filter vents (Y-5651 through 5655). Fabric filtration at 0.002 gr/dscf for granular resin surge hopper vent filter (D-6210), bag dump stations/dump hoppers vent filter (Y-6231 through 6235), talc surge bin filter (Y-6251), mixer vent filter (Y-6260), pellet conveying hopper (PE3-07), pellet hopper (PE3-08), and pellet blending/off-spec blending silos (PE3-09 through PE3-15). Pellet dryer vent (Y-7010) shall not exceed a maximum outlet concentration of 0.002 gr/dscf.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Catalyst vent filter (Y-4901): 0.005 gr/dscf, 0.035 lb/hr and 0.153 ton per rolling 12-month period. Receiver bin filter vent (Y-5657) & seed bed filter vents (Y-5651 through 5655): 0.005 gr/dscf, 0.08 lb/hr and 0.35 ton per rolling 12-month period. Granular resin surge hopper vent filter (D-6210): 0.002 gr/dscf, 0.042 lb/hr and 0.184 ton per rolling 12-month period. Bag dump stations/dump hoppers vent filter (Y-6231 through 6235): 0.002 gr/dscf, 0.0515 lb/hr and 0.226 ton per rolling 12-month period. Talc surge bin filter (Y-6251): 0.002 gr/dscf, 0.012 lb/hr and 0.053 ton per rolling 12-month period. Mixer vent filter (Y-6260): 0.002 gr/dscf, 0.009 lb/hr and

0.039 ton per rolling 12-month period. Pellet conveying hopper (PE3-07): 0.002 gr/dscf, 0.004 lb/hr and 0.018 ton per rolling 12-month period. Pellet hopper (PE3-08): 0.002 gr/dscf, 0.06 lb/hr and 0.26 ton per rolling 12-month period. Pellet blending/off-spec blending silos (PE3-09 through PE3-15): 0.002 gr/dscf, 0.048 lb/hr and 0.208 ton per rolling 12-month period for all vents combined. Pellet dryer vent (Y-7010) shall not exceed a maximum outlet concentration of 0.002 gr/dscf, 0.05 lb/hr and 0.11 ton per rolling 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for the catalyst vent filter (Y-4901) and receiver bin filter vent (Y-5657) & seed bed filter vents (Y-5651 through 5655). Fabric filtration at 0.002 gr/dscf for granular resin surge hopper vent filter (D-6210), bag dump stations/dump hoppers vent filter (Y-6231 through 6235), talc surge bin filter (Y-6251), mixer vent filter (Y-6260), pellet conveying hopper (PE3-07), pellet hopper (PE3-08), and pellet blending/off-spec blending silos (PE3-09 through PE3-15). Pellet dryer vent (Y-7010) shall not exceed a maximum outlet concentration of 0.002 gr/dscf.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 5% opacity as a 6 minute average from the following stacks: Catalyst vent filter (Y-4901), Receiver bin filter vent (Y-5657) & seed bed filter vents (Y-5651 through 5655), Granular resin surge hopper vent filter (D-6210), Bag dump stations/dump hoppers vent filter (Y-6231 through 6235), Talc surge bin filter (Y-6251), Mixer vent filter (Y-6260), Pellet conveying hopper (PE3-07), Pellet hopper (PE3-08), Pellet blending/off-spec blending silos (PE3-09 through PE3-15), and Pellet dryer vent (Y-7010)

Process/Pollutant Information

PROCESS NAME: Linear Low/High-Density Polyethylene Manufacturing Unit #4 (P805)

Process Type: 63.999 (Other Polymer and Resin Manufacturing Sources)

Primary Fuel:

Throughput: 0

Process Notes: 450 KTA linear low-density polyethylene (LLDPE)/high density polyethylene (HDPE) manufacturing process; includes purification (ethylene & raw material), catalyst system, reactor system, resin degassing and vent recovery, seed bed & granular storage system, and additive handling and pelletizing.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 80.0000 PPM BY VOLUME. SEE NOTES.

Emission Limit 2: 36.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Thermal oxidizer with a destruction efficiency of 99.5% from analyzer vents, degassing column vents, ethylene purification, low product purge bin vent filter, and high pressure accumulator vent. Closed vent system controlled with flare (high pressure (HP) and/or low pressure (LP)) with a destruction efficiency of 98% from butene dryer regen vent, hexene dryer regen vent, ICA dryer regen vent, ethylene deoxo regen vent, ethylene dryers regen vent, ethylene systems shutdown, non-emergency reactor vents, and product purge bin vent filter. Pressure safety valve (PSV) leaks/releases from raw materials supply pressure PSVs, purification PSVs, reaction PSVs, resin degassing PSVs, and vent recovery PSVs. Implementation of facility specific program reducing fugitive component equipment leaks including applicable component equipment in the polyethylene manufacturing line. Implementation of a program to minimize flaring.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Residual VOC in the polyethylene resin exiting the granular resin surge hopper shall be less than 80 ppmv. The combined VOC emissions for all LLDPE/HDPE manufacturing process vents without VOC control (e.g. not vented to flare or TO) shall not exceed 36.00 tons per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for the catalyst vent filter (Y-4902) and receiver bin filter vent (Y-5957) & seed bed filter vents (Y-5651 through 5655). Fabric filtration at 0.002 gr/dscf for granular resin surge hopper vent filter (D-6510), bag dump stations/dump hoppers vent filter (Y-6531 through 6535), talc surge bin filter (Y-6551), mixer vent filter (Y-6560), pellet conveying hopper (PE4-07), pellet hopper (PE4-08), and pellet blending/off-spec blending silos (PE4-09 through PE4-15). Pellet dryer vent (Y-7310) shall not exceed a maximum outlet concentration of 0.002 gr/dscf.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Catalyst vent filter (Y-4902): 0.005 gr/dscf, 0.035 lb/hr and 0.153 ton per rolling 12-month period. Receiver bin filter vent (Y-5957) & seed bed filter vents (Y-5651 through 5655): 0.005 gr/dscf, 0.08 lb/hr and 0.35 ton per rolling 12-month period. Granular resin surge hopper vent filter (D-6510): 0.002 gr/dscf, 0.042 lb/hr and 0.184 ton per rolling 12-month period. Bag dump stations/dump hoppers vent filter (Y-6531 through 6535): 0.002 gr/dscf, 0.0515 lb/hr and 0.226 ton per rolling 12-month period. Talc surge bin filter (Y-6551): 0.002 gr/dscf, 0.012 lb/hr and 0.053 ton per rolling 12-month period. Mixer vent filter (Y-6560): 0.002 gr/dscf, 0.009 lb/hr and 0.039 ton per rolling 12-month period. Pellet conveying hopper (PE4-07): 0.002 gr/dscf, 0.004 lb/hr and 0.018 ton per rolling 12-month period. Pellet hopper (PE4-08): 0.002 gr/dscf, 0.06 lb/hr and 0.26 ton per rolling 12-month period. Pellet blending/off-spec blending silos (PE4-09 through PE4-15): 0.002 gr/dscf, 0.048 lb/hr and 0.208 ton per rolling 12-month period for all vents combined. Pellet dryer vent (Y-7310) shall not exceed a maximum outlet concentration of 0.002 gr/dscf, 0.05 lb/hr and 0.11 ton per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for the catalyst vent filter (Y-4902) and receiver bin filter vent (Y-5957) & seed bed filter vents (Y-5651 through 5655). Fabric filtration at 0.002 gr/dscf for granular resin surge hopper vent filter (D-6510), bag dump stations/dump hoppers vent filter (Y-6531 through 6535), talc surge bin filter (Y-6551), mixer vent filter (Y-6560), pellet conveying hopper (PE4-07), pellet hopper (PE4-08), and pellet blending/off-spec blending silos (PE4-09 through PE4-15). Pellet dryer vent (Y-7310) shall not exceed a maximum outlet concentration of 0.002 gr/dscf.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Catalyst vent filter (Y-4902): 0.005 gr/dscf, 0.035 lb/hr and 0.153 ton per rolling 12-month period. Receiver bin filter vent (Y-5957) & seed bed filter vents (Y-5651 through 5655): 0.005 gr/dscf, 0.08 lb/hr and 0.35 ton per rolling 12-month period. Granular resin surge hopper vent filter (D-6510): 0.002 gr/dscf, 0.042 lb/hr and 0.184 ton per rolling 12-month period. Bag dump stations/dump hoppers vent filter (Y-6531 through 6535): 0.002 gr/dscf, 0.0515 lb/hr and 0.226 ton per rolling 12-month period. Talc surge bin filter (Y-6551): 0.002 gr/dscf, 0.012 lb/hr and 0.053 ton per rolling 12-month period. Mixer vent filter (Y-6560): 0.002 gr/dscf, 0.009 lb/hr and 0.039 ton per rolling 12-month period. Pellet conveying hopper (PE4-07): 0.002 gr/dscf, 0.004 lb/hr and 0.018 ton per rolling 12-month period. Pellet hopper (PE4-08): 0.002 gr/dscf, 0.06 lb/hr and 0.26 ton per rolling 12-month period. Pellet blending/off-spec blending silos (PE4-09 through PE4-15): 0.002 gr/dscf, 0.048 lb/hr and 0.208 ton per rolling 12-month period for all vents combined. Pellet dryer vent (Y-7310) shall not exceed a maximum outlet concentration of 0.002 gr/dscf, 0.05 lb/hr and 0.11 ton per rolling 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.005 gr/dscf for the catalyst vent filter (Y-4902) and receiver bin filter vent (Y-5957) & seed bed filter vents (Y-5651 through 5655). Fabric filtration at 0.002 gr/dscf for granular resin surge hopper vent filter (D-6510), bag dump stations/dump hoppers vent filter (Y-6531 through 6535), talc surge bin filter (Y-6551), mixer vent filter (Y-6560), pellet conveying hopper (PE4-07), pellet hopper (PE4-08), and pellet blending/off-spec blending silos (PE4-09 through PE4-15). Pellet dryer vent (Y-7310) shall not exceed a maximum outlet concentration of 0.002 gr/dscf.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 5% opacity as a 6 minute average from the following stacks: Catalyst vent filter (Y-4902), Receiver bin filter vent (Y-5957) & seed bed filter vents (Y-5651 through 5655), Granular resin surge hopper vent filter (D-6510), Bag dump stations/dump hoppers vent filter (Y-6531 through 6535), Talc surge bin filter (Y-6551), Mixer vent filter (Y-6560), Pellet conveying hopper (PE4-07), Pellet hopper (PE4-08), Pellet blending/off-spec blending silos (PE4-09 through PE4-15), and Pellet dryer vent (Y-7310)

Process/Pollutant Information

PROCESS NAME: OSBL Thermal Oxidizers (P001 and P002)

Process Type: 63.999 (Other Polymer and Resin Manufacturing Sources)

Primary Fuel: Natural gas

Throughput: 6.20 MMBTU/H

Process Notes: Two identical OSBL Thermal Oxidizers 1 and 2; 6.2 MMBtu/hr thermal oxidizer. Thermal oxidizer control is used to meet control requirements associated with BACT, NSPS, BAT, MACT, and NESHAP for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001. It should be noted that the thermal oxidizer control system consists of two identical thermal oxidizers (P001 and P002). One thermal oxidizer will be operational and providing required control at all times while the other unit is ready for use as a backup. Limits are for single oxidizer except as noted.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.5100 LB/H SEE NOTES.

Emission Limit 2: 2.2200 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of pipeline natural gas for TO pilots

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Thermal oxidizer control is used to meet control requirements associated with BACT, New Source Performance Standards (NSPS), BAT, Maximum Achievable Control Technology, and National Emission Standards for Hazardous Air Pollutants for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.6100 LB/H SEE NOTES.

Emission Limit 2: 2.6700 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of pipeline natural gas for TO pilots

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Thermal oxidizer control is used to meet control requirements associated with BACT, New Source Performance Standards (NSPS), BAT, Maximum Achievable Control Technology, and National Emission Standards for Hazardous Air Pollutants for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0500 LB/H SEE NOTES.

Emission Limit 2: 0.2000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of pipeline natural gas for TO pilots

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Thermal oxidizer control is used to meet control requirements associated with BACT, New Source Performance Standards (NSPS), BAT, Maximum Achievable Control Technology, and National Emission Standards for Hazardous Air Pollutants for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0500 LB/H SEE NOTES.

Emission Limit 2: 0.2000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of pipeline natural gas for TO pilots

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Thermal oxidizer control is used to meet control requirements associated with BACT, New Source Performance Standards (NSPS), BAT, Maximum Achievable Control Technology, and National Emission Standards for Hazardous Air Pollutants for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0300 LB/H SEE NOTES.

Emission Limit 2: 0.1400 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001. The control efficiency is 99.5%.

Est. % Efficiency: 99.500

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Thermal oxidizer control is used to meet control requirements associated with BACT, New Source Performance Standards (NSPS), BAT, Maximum Achievable Control Technology, and National Emission Standards for Hazardous Air Pollutants for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 3161.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of pipeline natural gas for TO pilots

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Thermal oxidizer control is used to meet control requirements associated with BACT, New Source Performance Standards (NSPS), BAT, Maximum Achievable Control Technology, and National Emission Standards for Hazardous Air Pollutants for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of pipeline natural gas for TO pilots

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Thermal oxidizer control is used to meet control requirements associated with BACT, New Source Performance Standards (NSPS), BAT, Maximum Achievable Control Technology, and National Emission Standards for Hazardous Air Pollutants for affected facility operations, storage tanks, and process vents. For efficient permitting structure, the thermal oxidizer has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The thermal oxidizer controls VOC emissions from units P801, P802, P803, P804, P805, and J001.

Process/Pollutant Information

PROCESS NAME: High Pressure Ground Flare (P003)

Process Type: 19.310 (Chemical Plant Flares)

Primary Fuel: Natural gas

Throughput: 1.80 MMBTU/H

Process Notes: 1.8 MMBtu/hr high-pressure, multi-point, staged ground flare. The high pressure (HP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the HP ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.9171 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The high pressure (HP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the HP ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.5360 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The high pressure (HP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the HP ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0590 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The high pressure (HP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the HP ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0590 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The high pressure (HP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the HP ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.4940 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805. The control efficiency is 98%

Est. % Efficiency: 98.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The high pressure (HP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the HP ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 923.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The high pressure (HP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the HP ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The high pressure (HP) flare controls VOC emissions from units P801, P802, P803, P804, and P805.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: No visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

Process/Pollutant Information

PROCESS NAME: Low Pressure Ground Flare (P004)

Process Type: 19.310 (Chemical Plant Flares)

Primary Fuel: Natural gas

Throughput: 0.78 MMBTU/H

Process Notes: 0.78 MMBtu/hr low-pressure, multi-point, staged ground flare. The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 1.9700 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) The low pressure (LP) flare controls VOC emissions from units P804 and P805. The control efficiency is 98%.

Est. % Efficiency: 98.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 1.2600 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.2320 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0260 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0260 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) use of natural gas as pilot light fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 400.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) use of natural gas as pilot light fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) use of natural gas as pilot light fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: No visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. The low pressure (LP) ground flare is used to meet control requirements associated with BACT, NSPS, BAT, and MACT for affected facility operations and process vents. For efficient permitting structure, the ECU ground flare has been permitted as a separate and individual emissions unit to contain limitations, operational restrictions, monitoring, record keeping, reporting, and testing associated with control requirements. The low pressure (LP) flare controls VOC emissions from units P804 and P805.

Process/Pollutant Information

PROCESS NAME: Wastewater Collection and Treatment (P806)

Process Type: 64.006 (Wastewater Collection & Treatment)

Primary Fuel:

Throughput: 0

Process Notes: Wastewater treatment plant and associated collection and treatment systems for treatment of wastewater generated in the ethylene manufacturing process, the high-density polyethylene units, the linear low-density polyethylene units, the air separation unit, and all sanitary wastewater; includes an oily water treatment plant, a process biological treatment plant and a sanitary treatment plant; emissions sources include: a 12% NaClO2 storage tank (T-5205) and a 98% sulfuric acid storage tank (T-3502) vented to atmosphere, a wet air oxidation unit, an equalization tank (T-6503), an oily wastewater storage tank (T-6501), a corrugated plate interceptor (CPI) package, a waste oil tank (T-6502), a dissolved gas floatation (DGF) unit and GCF/CPI sump covered and vented to one primary and one backup 1.0 MMBtu/hr thermal oxidizers

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0100 LB/H

Emission Limit 2: 0.0200 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: MACT

Control Method: (B) i. Use an enhanced biodegradation unit to maintain the annual benzene quantity from facility waste at less than 10 megagrams (MG; 11 tons) by combining waste streams with greater than 10 ppmw benzene with waste streams with less than 10 ppmw benzene to form a combined waste stream with a benzene concentration less than 10 ppmw; ii. Route emissions from wastewater generated in the ethylene manufacturing process to a thermal oxidizer designed to achieve >99.5% destruction efficiency for volatile organic compounds (VOC); iii. Cover and

route emissions from the process wastewater equalization tank (T-6503), the waste oil drum (T-6502), the oily wastewater storage tank (T-6501) and the wet air oxidation unit to a thermal oxidizer designed to achieve >99.5% destruction efficiency for VOC; iv. Emissions from wastewater generated in the high-density polyethylene units must comply with the applicable requirements of 40 CFR Part 63, Subpart FFFF.

Est. % Efficiency: 99.500
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0980 LB/H
Emission Limit 2: 0.4300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0820 LB/H
Emission Limit 2: 0.3600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: EPA/OAR Mthd 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0080 LB/H
Emission Limit 2: 0.0300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0080 LB/H
Emission Limit 2: 0.0300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0080 LB/H
Emission Limit 2: 0.0300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: EPA/OAR Mthd 9
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 513.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Fugitive Emissions (P807)
Process Type: 64.002 (Equipment Leaks (valves, compressors, pumps, etc.))
Primary Fuel:
Throughput: 0

Process Notes: Facility-wide fugitive emissions from equipment and process unit leaks

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 99.3800 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , MACT

Control Method: (A) Enhanced connector monitoring requirements to the most stringent leak detection and repair (LDAR) regulation applicable to affected equipment/process units. The following identifies LDAR requirements for affected equipment/process units which have been determined to representative of BACT: i. 40 CFR Part 63 Subpart UU as applicable to the ethylene manufacturing process with enhanced connector monitoring; ii. 40 CFR Part 60 Subpart VVa as applicable to the polyethylene manufacturing process with enhanced connector monitoring; The LDAR programs indicated above which are representative of BACT shall implement the following enhanced connector monitoring requirements: i. connector monitoring subsequent to the initial monitoring required shall be performed on a quarterly basis; ii. if following the initial four (4) consecutive quarters, the percent leaking connectors in a process unit is less than 0.5 percent during the most recent quarterly monitoring event, then the frequency of connector monitoring can be reduced to semi-annual; iii. if following two (2) consecutive semi-annual periods, the percent leaking connectors in a process unit is less than 0.5 percent during the most recent semi-annual monitoring event, then the frequency of connector monitoring can be reduced to annual. iv. If more than or equal to 0.5 percent of the connectors in a process unit are determined to be leaking during any one of the semi-annual or annual monitoring events then the frequency of monitoring shall be returned to a quarterly basis.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Enhanced connector monitoring requirements to the most stringent leak detection and repair (LDAR) regulation applicable to affected equipment/process units. The following identifies LDAR requirements for affected equipment/process units which have been determined to representative of BACT: i. 40 CFR Part 63 Subpart UU as applicable to the ethylene manufacturing process with enhanced connector monitoring; ii. 40 CFR Part 60 Subpart VVa as applicable to the polyethylene manufacturing process with enhanced connector monitoring; The LDAR programs indicated above which are representative of BACT shall implement the following enhanced connector monitoring requirements: i. connector monitoring subsequent to the initial monitoring required shall be performed on a quarterly basis; ii. if following the initial four (4) consecutive quarters, the percent leaking connectors in a process unit is less than 0.5 percent during the most recent quarterly monitoring event, then the

frequency of connector monitoring can be reduced to semi-annual; iii. if following two (2) consecutive semi-annual periods, the percent leaking connectors in a process unit is less than 0.5 percent during the most recent semi-annual monitoring event, then the frequency of connector monitoring can be reduced to annual. iv. If more than or equal to 0.5 percent of the connectors in a process unit are determined to be leaking during any one of the semi-annual or annual monitoring events then the frequency of monitoring shall be returned to a quarterly basis.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 35.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) i. an LDAR program for leaks of methane from equipment and piping components in tail gas (fuel gas) and natural gas service. The LDAR program will involve sensory monitoring methods for leaks; ii. methane contained in leaks associated with fugitive VOCs will be minimized by the implementation of BACT for fugitive leaks of VOC.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: CO2e emissions from leaks of methane from equipment and piping components in tail gas (fuel gas) and natural gas service at the entire facility shall not exceed 35 tons per rolling 12-month period.

Process/Pollutant Information

PROCESS NAME: Light and Heavy Pygas Railcar Loading (J001)

Process Type: 64.005 (Transfer of SOCMI Chemicals (loading/unloading, filling, etc.))

Primary Fuel:

Throughput: 0

Process Notes: Loading of railcars (2 loading arms) with light and heavy pygas controlled by the OSBL thermal oxidizer (P001 or P002).

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (A) Thermal oxidizer (TO) achieving a destruction efficiency of >99.5%. The TO controlling heavy and light pygas railcar loading operations is permitted as a separate and individual emissions unit (emissions unit P001 or P002). For efficient permitting structure, the applicable operational restrictions, monitoring, record keeping, reporting, and testing associated with TO control are contained within the requirements of emissions unit P001 and P002. A separate emissions unit (P807) associated with fugitive leaks of VOC, HAP*, VHAP/Benzene*, and GHGs* from all component equipment at the facility subject to the leak control and repair regulations above has been established. For efficient permitting structure, the applicable requirements (limitations, operational restrictions, monitoring, record keeping, reporting, and testing) associated with equipment leak control and repair for VOC, HAP*, VHAP/Benzene*, and GHGs* are contained within the requirements of emissions unit P807.

Est. % Efficiency: 99.500

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: The TO controlling heavy and light pygas railcar loading operations is permitted as a separate and individual emissions unit (emissions unit P001 or P002). For efficient permitting structure, the applicable operational restrictions, monitoring, record keeping, reporting, and testing associated with TO control are contained within the requirements of emissions unit P001 and P002. A separate emissions unit (P807) associated with fugitive leaks of VOC, HAP*, VHAP/Benzene*, and GHGs* from all component equipment at the facility subject to the leak control and repair regulations above has been established. For efficient permitting structure, the applicable requirements (limitations, operational restrictions, monitoring, record keeping, reporting, and testing) associated with equipment leak control and repair for VOC, HAP*, VHAP/Benzene*, and GHGs* are contained within the requirements of emissions unit P807.

Process/Pollutant Information

PROCESS NAME: HDPE Railcar Loading 1 (P901)

Process Type: 64.005 (Transfer of SOCMI Chemicals (loading/unloading, filling, etc.))

Primary Fuel:

Throughput: 0

Process Notes: Railcar loading of high-density polyethylene (HDPE) pellets controlled with baghouse

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.002 gr/dscf for PE Railcar Loading Bin (PE1-21), PE Railcar Loading Bin (PE2-21), PE Railcar Loading (PE1-22), and PE Railcar Loading (PE2-22). Fabric filtration at 0.001 gr/dscf for the pellet cleaning package vent (PE-RPC).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PE Railcar Loading Bin (PE1-21): 0.002 gr/dscf, 0.018 lb/hr and 0.081ton per rolling 12-month period. PE Railcar Loading Bin (PE2-21): 0.002 gr/dscf, 0.018 lb/hr and 0.081 ton per rolling 12-month period. PE Railcar Loading (PE1-22): 0.002 gr/dscf, 0.0002 lb/hr and 0.0009 ton per rolling 12-month period. PE Railcar Loading (PE2-22): 0.002 gr/dscf, 0.0002 lb/hr and 0.0009 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE1-20): 0.002 gr/dscf, 0.018 lb/hr and 0.081 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE2-20): 0.002 gr/dscf, 0.018 lb/hr and 0.081 ton per rolling 12-month period. Pellet cleaning package vent (PE-RPC): 0.001 gr/dscf, 0.009 lb/hr and 0.038 ton per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.002 gr/dscf for PE Railcar Loading Bin (PE1-21), PE Railcar Loading Bin (PE2-21), PE Railcar Loading (PE1-22), and PE Railcar Loading (PE2-22). Fabric filtration at 0.0005 gr/dscf for the pellet cleaning package vent (PE-RPC).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PE Railcar Loading Bin (PE1-21): 0.002 gr/dscf, 0.018 lb/hr and 0.081ton per rolling 12-month period. PE Railcar Loading Bin (PE2-21): 0.002 gr/dscf, 0.018 lb/hr and 0.081 ton per rolling 12-month period. PE Railcar Loading (PE1-22): 0.002 gr/dscf, 0.0002 lb/hr and 0.0009 ton per rolling 12-month period. PE Railcar Loading (PE2-22): 0.002 gr/dscf, 0.0002 lb/hr and 0.0009 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE1-20): 0.002 gr/dscf, 0.018 lb/hr and 0.081 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE2-20): 0.002 gr/dscf, 0.018 lb/hr and 0.081 ton per rolling 12-month period. Pellet cleaning package vent (PE-RPC): 0.0005 gr/dscf, 0.004 lb/hr and 0.019 ton per rolling 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.002 gr/dscf for PE Railcar Loading Bin (PE1-21), PE Railcar Loading Bin (PE2-21), PE Railcar Loading (PE1-22), and PE Railcar Loading (PE2-22). Fabric filtration at 0.001 gr PM10/dscf for the pellet cleaning package vent (PE-RPC).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: HDPE Railcar Loading 2 (P902)

Process Type: 64.005 (Transfer of SOCMI Chemicals (loading/unloading, filling, etc.))

Primary Fuel:

Throughput: 0

Process Notes: Railcar loading of linear low-density polyethylene/high density polyethylene (LLDPE/HDPE) pellets controlled with baghouse. Loading operations include pellet cleaning package process.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.002 gr/dscf for PE Railcar Loading Bin (PE3-17), PE Railcar Loading Bin (PE4-17), PE Railcar Loading (PE3-18), and PE Railcar Loading (PE4-18). Fabric filtration at 0.001 gr/dscf for the pellet cleaning package vent (PE-RPC).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PE Railcar Loading Bin (PE3-17): 0.002 gr/dscf, 0.024 lb/hr and 0.0104 ton per rolling 12-month period. PE Railcar Loading Bin (PE4-17): 0.002 gr/dscf, 0.024 lb/hr and 0.104 ton per rolling 12-month period. PE Railcar Loading (PE3-18): 0.002 gr/dscf, 0.0003 lb/hr and 0.0013 ton per rolling 12-month period. PE Railcar Loading (PE4-18): 0.002 gr/dscf, 0.003 lb/hr and 0.0013 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE3-16): 0.002 gr/dscf, 0.024 lb/hr and 0.104 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE4-16): 0.002 gr/dscf, 0.024 lb/hr and 0.104 ton per rolling 12-month period. Pellet cleaning package vent (PE-RPC): 0.001 gr/dscf, 0.009 lb/hr and 0.038 ton per rolling 12-month period.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.002 gr/dscf for PE Railcar Loading Bin (PE3-17), PE Railcar Loading Bin (PE4-17), PE Railcar Loading (PE3-18), and PE Railcar Loading (PE4-18). Fabric filtration at 0.0005 gr/dscf for the pellet cleaning package vent (PE-RPC).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PE Railcar Loading Bin (PE3-17): 0.002 gr/dscf, 0.024 lb/hr and 0.0104 ton per rolling 12-month period. PE Railcar Loading Bin (PE4-17): 0.002 gr/dscf, 0.024 lb/hr and 0.104 ton per rolling 12-month period. PE Railcar Loading (PE3-18): 0.002 gr/dscf, 0.0003 lb/hr and 0.0013 ton per rolling 12-month period. PE Railcar Loading (PE4-18): 0.002 gr/dscf, 0.003 lb/hr and 0.0013 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE3-16): 0.002 gr/dscf, 0.024 lb/hr and 0.104 ton per rolling 12-month period. PE Pellet Elutricator & Cyclone Separator (PE4-16): 0.002 gr/dscf, 0.024 lb/hr and 0.104 ton per rolling 12-month period. Pellet cleaning package vent (PE-RPC): 0.0005 gr/dscf, 0.004 lb/hr and 0.019 ton per rolling 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Fabric filtration at 0.002 gr/dscf for PE Railcar Loading Bin (PE3-17), PE Railcar Loading Bin (PE4-17), PE Railcar Loading (PE3-18), and PE Railcar Loading (PE4-18). Fabric filtration at 0.001 gr PM10/dscf for the pellet cleaning package vent (PE-RPC).

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Facility Roadways (F001)
Process Type: 99.140 (Paved Roads)
Primary Fuel:
Throughput: 182865.00 MI/YR
Process Notes: Facility roadways and parking areas; maximum of 182,865 annual vehicle miles traveled

POLLUTANT NAME: Particulate matter, fugitive
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1: 1.8800 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) i. Pave all in-plant haul roads and parking areas; ii. Implement best management practices including posting and limiting vehicle speeds to 20 miles per hour and water spraying or sweeping as needed based on the daily inspections conducted
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3800 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) i. Pave all in-plant haul roads and parking areas; ii. Implement best management practices including posting and limiting vehicle speeds to 20 miles per hour and water spraying or sweeping as needed based on the daily inspections conducted
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0900 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) i. Pave all in-plant haul roads and parking areas; ii. Implement best management practices including posting and limiting vehicle speeds to 20 miles per hour and water spraying or sweeping as needed based on the daily inspections conducted
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) i. Pave all in-plant haul roads and parking areas; ii. Implement best management practices including posting and limiting vehicle speeds to 20 miles per hour and water spraying or sweeping as needed based on the daily inspections conducted

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: No visible particulate emissions from any paved roadway or parking area except for a period of time not to exceed one minute during any 60-minute observation period.

Process/Pollutant Information

PROCESS NAME: Firewater Pumps (P005 and P006)

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 402.00 HP

Process Notes: Two identical Firewater Pumps 1 and 2; 300 kW (402 HP) emergency diesel-fired firewater pump engine. Limits are for single pump except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.6400 LB/H SEE NOTES.

Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 3.0000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII and employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits are for non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx). Non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx) emissions shall not exceed 4.0 g/kW-hour (3.0 g/HP-hour), 2.64 pounds per hour and 0.13 ton per rolling, 12-month period.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 2.6400 LB/H SEE NOTES.

Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 3.0000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII and employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits are for non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx). Non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx) emissions shall not exceed 4.0 g/kW-hour (3.0 g/HP-hour), 2.64 pounds per hour and 0.13 ton per rolling, 12-month period.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.3100 LB/H

Emission Limit 2: 0.1200 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII and employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1300 LB/H

Emission Limit 2: 0.0066 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII and employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1300 LB/H

Emission Limit 2: 0.0066 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII and employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1300 LB/H

Emission Limit 2: 0.0066 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII and employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 23.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good operating practices (proper maintenance and operation)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII and employ good combustion practices per the manufacturer's operating manual
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Emergency Diesel-fired Generator Engine (P007)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 3353.00 HP
Process Notes: 2,500 kW (3,353 HP) emergency diesel-fired generator engine

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 37.4100 LB/H SEE NOTES.
Emission Limit 2: 1.8700 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 4.8000 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emission limits are for non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx). Non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx) emissions shall not exceed 6.4 g/kW-hour (4.8 g/HP-hour), 37.41 pounds per hour and 1.87 tons per rolling, 12-month period.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 37.4100 LB/H SEE NOTES.

Emission Limit 2: 1.8700 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits are for non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx). Non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx) emissions shall not exceed 6.4 g/kW-hour (4.8 g/HP-hour), 37.41 pounds per hour and 1.87 tons per rolling, 12-month period.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 19.2500 LB/H

Emission Limit 2: 0.9600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.1000 LB/H

Emission Limit 2: 0.0550 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.1000 LB/H

Emission Limit 2: 0.0550 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.1000 LB/H

Emission Limit 2: 0.0550 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0150 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent during the acceleration mode; 15 percent during the lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 200.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good operating practices (proper maintenance and operation)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: 1,000 kW Emergency Generators (P008 - P010)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 1341.00 HP
Process Notes: Three identical ECU Generators 1 to 3; 1,000 kW (1,341 HP) emergency diesel-fired generator engine. Limits are for single generator except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 14.9600 LB/H SEE NOTES.

Emission Limit 2: 0.7500 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits are for non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx). Non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx) emissions shall not exceed 6.4 g/kW-hour (4.8 g/HP-hour), 14.96 pounds per hour and 0.75 ton per rolling, 12-month period.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 14.9600 LB/H SEE NOTES.

Emission Limit 2: 0.7500 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission limits are for non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx). Non-methane hydrocarbon plus nitrogen oxides (NMHC + NOx) emissions shall not exceed 6.4 g/kW-hour (4.8 g/HP-hour), 14.96 pounds per hour and 0.75 ton per rolling, 12-month period.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 7.7000 LB/H

Emission Limit 2: 0.3900 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4400 LB/H

Emission Limit 2: 0.0220 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4400 LB/H
Emission Limit 2: 0.0220 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4400 LB/H
Emission Limit 2: 0.0220 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturer's operating manual
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent during the acceleration mode; 15 percent during the lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 80.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) good operating practices (proper maintenance and operation)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Cooling Tower (P011)
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel:
Throughput: 13.88 MMGAL/H
Process Notes: Multi-cell, induced-draft, counter-flow evaporative cooling tower with side stream filtration system and high efficiency mist/drift eliminator.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 5.0700 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) High efficiency drift eliminator designed to achieve a 0.0005% drift rate and maintenance of a total dissolved solids (TDS) content not to exceed 2,000 ppm in the circulating cooling water based on a rolling 12-month average.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 3.2200 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) High efficiency drift eliminator designed to achieve a 0.0005% drift rate and maintenance of a total dissolved solids (TDS) content not to exceed 2,000 ppm in the circulating cooling water based on a rolling 12-month average.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0100 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) High efficiency drift eliminator designed to achieve a 0.0005% drift rate and maintenance of a total dissolved solids (TDS) content not to exceed 2,000 ppm in the circulating cooling water based on a rolling 12-month average.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 42.5500 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: MACT
Control Method: (P) (a) VOC content in cooling water shall not exceed a concentration of 0.7 lb/MMgal; (b) Compliance with heat exchange leak monitoring and repair requirements for affected ethylene manufacturing process units contained in 40 CFR Part 63 Subpart XX
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Facility Information

RBLC ID:	LA-0331 (final)	**Date Determination Last Updated:**	06/19/2019
Corporate/Company Name:	VENTURE GLOBAL CALCASIEU PASS, LLC	**Permit Number:**	PDS-LA-805
Facility Name:	CALCASIEU PASS LNG PROJECT	**Permit Date:**	09/21/2018 (actual)
Facility Contact:	GRAHAM MCARTHUR 202-759-6741 GMCARTHUR@VGLNG.COM	**FRS Number:**	Not Found
Facility Description:	New Liquefied Natural Gas (LNG) production, storage, and export terminal.	**SIC Code:**	4925
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221210
Permit URL:			
EPA Region:	6	**COUNTRY:**	USA
Facility County:	CAMERON		

Facility State:	LA
Facility ZIP Code:	70631
Permit Issued By:	LOUISIANA DEPARTMENT OF ENV QUALITY (Agency Name) MR. BRYAN D. JOHNSTON(Agency Contact) (225)219-3450 BRYAN.JOHNSTON@LA.GOV
Other Agency Contact Info:	Ms. Mei Wu, (225)219-3180
Permit Notes:	Application Received September 2, 2015.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	763.1500 (Tons/Year)
Nitrogen Oxides (NOx)	476.5400 (Tons/Year)
Particulate Matter (PM)	241.8500 (Tons/Year)
Sulfur Oxides (SOx)	94.7700 (Tons/Year)
Volatile Organic Compounds (VOC)	74.1000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	Combined Cycle Combustion Turbines (CCCT1 to CCCT5)
Process Type:	15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel:	Natural Gas
Throughput:	921.00 MM BTU/h
Process Notes:	

POLLUTANT NAME:	Nitrogen Oxides (NOx)
CAS Number:	10102
Test Method:	Unspecified
Pollutant Group(s):	(InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:	2.5000 PPMV 30 DAY ROLLING AVERAGE
Emission Limit 2:	
Standard Emission:	

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS , OPERATING PERMIT
Control Method:	(B) Low NOx Burners, SCR, and Good Combustion Practices
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are in ppmv @ 15% O2; Averaging time is 30 Day Rolling Average during Normal Operations.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 5.0000 PPMV 30 DAY ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT , NSPS
Control Method: (B) Oxidation Catalyst, Proper Design, Good Combustion Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are ppmv @15% O2; Averaging time is 30 Day Rolling Average During Normal Operations.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 9.5300 LB/H 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT , NSPS
Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Averaging time 3-hour Average during duct burner and turbine operations.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 9.5300 LB/H 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Averaging time 3-hour Average during duct burner and turbine operations.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 4.0000 PPMV ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Low Sulfur Fuel and Proper Engineering Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: BACT limit is 4 PPMV H2S; Annual Average Content in Fuel.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.1000 PPMV 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT , NSPS
Control Method: (B) Catalytic Oxidation, Proper Equipment Design and Good Combustion Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are in ppmv @ 15% O2; Averaging Time 3-Hour Average During Normal Operations.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 2602275.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Combust low carbon fuel gas and good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Annual Total for 5 Combined Cycle Turbines

Process/Pollutant Information

PROCESS NAME: Hot Oil Heaters (HOH1 to HOH6)
Process Type: 12.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural Gas
Throughput: 115.00 MM BTU/h
Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0380 LB/MM BTU 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (A) Ultra Low NOx Burners and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Subject to 40 CFR 60 Subpart Db

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0820 LB/ MM BTU 3 HOUR AVERAGE
Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Subject to 40 CFR 60 Subpart Db

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MM BTU 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Subject to 40 CFR 60 Subpart Db

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MM BTU 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Subject to 40 CFR 60 Subpart Db

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0006 LB/MM BTU 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusive Use Low Sulfur Fuel Gas and Proper Engineering Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Subject to 40 CFR 60 Subpart Db

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0054 LB/MM BTU 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Proper Equipment Design and Operation, Good Combustion Practices, and Exclusive Combustion of Fuel Gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Subject to 40 CFR 60 Subpart Db

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 354456.0000 T/YR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusive combustion of Low-Carbon Fuel Gas, Good Combustion Practices, Good Operation & Maintenance Practices and Insulation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: BACT Limit based on Annual Total for 6 Heaters. Subject to 40 CFR 60 Subpart Db

Process/Pollutant Information

PROCESS NAME: Acid Gas Thermal Oxidizer (AGTO)

Process Type: 19.200 (Emission Control Afterburners & Incinerators (combustion gasses only))

Primary Fuel: Natural Gas

Throughput: 186.00 MM BTU/h

Process Notes: Thermal Oxidizer to combust sour gas from the acid removal unit.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.1500 LB/MM BTU 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (B) Low NOx Burners and Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0900 LB/MM BTU 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (P) Proper Equipment Design and Operation, Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0082 LB/MM BTU 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0082 LB/MM BTU 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 2.3700 LB/MM BTU 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper Equipment Design and Operation, Good Combustion Practices, Pre-Treatment Sulfur Content in the Inlet Gas Stream
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: H2S concentration in fuel will be limited to 4 ppmv. Sulfur content sampled quarterly.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0100 LB/MM BTU 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper Equipment Design and Operation, Good Combustion Practices
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 768337.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Gaseous Fuel, Good Combustion Practices, Good Operation & Maintenance Practices and Insulation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Large Emergency Engines (>50kW)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel Fuel
Throughput: 5364.00 HP
Process Notes: Three emergency black-start engines and two emergency generators

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 5.6000 G/KW-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good Combustion and Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 100 hr/yr.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good Combustion and Operating Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 100 hr/yr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good combustion and operating practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 100 hr/yr.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good combustion and operating practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 100 hr/yr.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.7900 G/KW-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good combustion and operating practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 100 hr/yr.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: LB/HP-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Ultra-low sulfur diesel fuel with sulfur content of 15 ppmv.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 100 hr/yr.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1481.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Good Combustion of Practices and Good Operation and Maintenance Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Annual Total for 5 emergency engines.

Process/Pollutant Information

PROCESS NAME: Fugitive Equipment Leaks
Process Type: 50.002 (Natural Gas/Gasoline Processing Plants)
Primary Fuel:
Throughput: 0
Process Notes: Fugitive Emissions

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 5.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper piping design and compliance with LAC 33:III.2111.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 3141.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper piping design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Flares (WRMFLR, CLDFLR, LPFLR)
Process Type: 19.390 (Other Flares)
Primary Fuel: Natural Gas
Throughput: 21.74 MM BTU/h
Process Notes: Flare system to provide safe and reliable disposal of streams released during start-up, shutdown, plant upsets, and emergency conditions.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0680 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.3100 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0074 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0074 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 4.0000 PPMV
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices. Combustion of Low Sulfur Gas in Pilot fuel.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limit Unit is ppmv H2S. When Flare is Operating. Limit to Sulfur Content of Fuel.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0060 LB/H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Marine Loading Flare
Process Type: 19.390 (Other Flares)
Primary Fuel: Natural Gas
Throughput: 0.31 MM BTU/h
Process Notes: Control Device for LNG loading process.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0680 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.3100 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0074 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0074 LB/MM BTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is Operating.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 4.0000 PPMV
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices. Combustion of Low Sulfur Gas in Pilot Fuel.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limit of Sulfur Content in fuel 4 ppmv H2S.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0060 LB/H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Flare is in Normal Operation.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1107.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Proper equipment design, proper operation, and good combustion practices.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Annual Total including Gassing Up Operation.

Process/Pollutant Information

PROCESS NAME: Aeroderivative Simple Cycle Combustion Turbine
Process Type: 16.110 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: Natural Gas
Throughput: 263.00 MM BTU/h
Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 25.0000 PPMV 30 DAY ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (B) Selective Catalytic Reduction (SCR), exclusive combustion of fuel gas, and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are in ppmv @ 15% O2; Averaging time is 30 Day Rolling Average during normal operations. Subject to 40 CFR 60 Subpart KKKK

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 36.0000 PPMV 30 DAY ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Proper Equipment Design, Proper Operation, and Good Combustion Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are in ppmv @ 15% O2; Averaging time is 30 Day Rolling Average during normal operations. Subject to 40 CFR 60 Subpart KKKK

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 4.5000 LB/H 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Fuel Gas, Good Combustion Practices Including Proper Burner Design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Averaging time is 3-hour average during normal operations. Subject to 40 CFR 60 Subpart KKKK.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 4.5000 LB/H 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Fuel Gas, Good Combustion Practices Including Proper Burner Design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Averaging time is 3-hour average during normal operations. Subject to 40 CFR 60 Subpart KKKK.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 4.0000 PPMV ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Exclusive Combustion of Low Sulfur Fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: The H2S concentration in fuel limited to 4 ppmv H2S. Averaging time is Annual Average Content in Fuel.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.5000 PPMV 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Proper Equipment Design, Proper Operation, and Good Combustion Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are in ppmv @ 15% O2. Averaging time is 3-hour Average during normal operations.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 134907.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Combust low carbon fuel gas, good combustion practices, good operation and maintenance practices and insulation.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Subject to 40 CFR 60 Subpart KKKK.

Process/Pollutant Information

PROCESS NAME: Storage Tanks

Process Type: 50.002 (Natural Gas/Gasoline Processing Plants)

Primary Fuel:

Throughput: 7183.15 CF

Process Notes: Pentane and Amine Flash Drums

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (P) Follow the best practical house keeping and maintenance practices as specified in LAC 33:III.2113.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Amine Flash Drums controlled by the Acid Gas Thermal Oxidizer. Pentane Tank controlled by the Warm Flare.

Process/Pollutant Information

PROCESS NAME: Simple Cycle Combustion Turbines (SCCT1 to SCCT3)

Process Type: 15.110 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural Gas

Throughput: 927.00 MM BTU/h

Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 9.0000 PPMV 30 DAY ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (B) Dry Low NOx Combustor Design, Good Combustion Practices, and Natural Gas Combustion.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are in ppmv @ 15% O2; 30 day rolling average during normal operations. Subject to 40 CFR 60 Subpart KKKK

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 25.0000 PPMV 30 DAY ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Proper Equipment Design, Proper Operation, and Good Combustion Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are in ppmv @ 15% O2; 30 day rolling average during normal operations. Subject to 40 CFR 60 Subpart KKKK

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 8.0000 LB/H 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices, Including Proper Burner Design.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Averaging time 3-hour Average during normal operations. Subject to 40 CFR 60 Subpart KKKK

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 8.0000 LB/H 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusive Combustion of Fuel Gas and Good Combustion Practices, Including Proper Burner Design.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Averaging time is 3-hour average during normal operations. Subject to 40 CFR 60 Subpart KKKK

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 4.0000 PPMV ANNUAL AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (P) Exclusive Combustion of low sulfur fuel - Fuel sulfur content

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Units are in ppmv H2S; Annual Average Sulfur Content in Fuel

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 1.4000 PPMV 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT , NSPS

Control Method: (P) Proper Equipment Design, Proper Operation, and Good Combustion Practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Units are in PPMV @ 15% O2; Averaging period is 3 hour average during normal operations. Subject to 40 CFR 60 Subpart KKKK.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1426146.0000 T/YR ANNUAL TOTAL

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , OPERATING PERMIT

Control Method: (P) Exclusively combust low carbon fuel gas, good combustion practices, good operation and maintenance practices, and insulation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Annual Total for 3 simple cycle turbines. Subject to 40 CFR 60 Subpart KKKK.

Process/Pollutant Information

PROCESS NAME: Firewater Pumps

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel Fuel

Throughput: 634.00 kW

Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.1000 G/HP-H

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good Combustion and Operating Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 50 h/yr.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.7000 G/HP-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good Combustion and Operating Practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 50 hr/yr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3000 G/HP-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good combustion and operating practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 50 hr/yr.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3000 G/HP-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good combustion and operating practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 50 hr/yr.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.4400 G/HP-H
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , OPERATING PERMIT
Control Method: (P) Good combustion and operating practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 50 hr/yr.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0400 LB/GAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (P) Ultra-Low Sulfur Diesel Fuel with Sulfur Content of 15 ppmv.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Comply with 40 CFR 60 Subpart IIII and limiting normal operations to 50 hr/yr.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 44.0000 T/YR ANNUAL TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Control Method:	(P) Good Combustion Practices and Good Operation and Maintenance Practices.
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	Annual total for 2 firewater pumps.

Facility Information

RBLC ID:	IL-0129 (final)	**Date Determination Last Updated:**	02/19/2019
Corporate/Company Name:	CPV THREE RIVERS, LLC	**Permit Number:**	16060032
Facility Name:	CPV THREE RIVERS ENERGY CENTER	**Permit Date:**	07/30/2018 (actual)
Facility Contact:	MIKE BRUNO 781-817-8972 MBRUNO@CPV.COM	**FRS Number:**	Not Found
Facility Description:	The proposed facility is designed to generate baseload power. It will consist of two combined-cycle generating units, each with a combustion turbine and associated heat recovery steam generator (HRSG). The turbines would burn natural gas and ultra-low sulfur diesel (ULSD) as a backup fuel. Other units include an auxiliary boiler, fuel heater, engines, natural gas piping and components, circuit breakers and roadways.	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	GRUNDY		
Facility State:	IL		
Facility ZIP Code:	60450		
Permit Issued By:	ILLINOIS EPA, BUREAU OF AIR (Agency Name) MR. RAY PILAPIL(Agency Contact) (217) 782-2113 ray.pilapil@illinois.gov		
Other Agency Contact Info:	Illinois EPA, Bureau of Air Permit Section		
Permit Notes:			

Facility-wide Emissions:	**Pollutant Name:**	**Facility-wide Emissions Increase:**
	Carbon Monoxide	268.0000 (Tons/Year)

Nitrogen Oxides (NOx)	318.0000 (Tons/Year)
Particulate Matter (PM)	121.3000 (Tons/Year)
Sulfur Oxides (SOx)	36.9000 (Tons/Year)
Volatile Organic Compounds (VOC)	81.2000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Combined Cycle Combustion Turbines

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural Gas

Throughput: 3474.00 mmBtu/hr

Process Notes: Throughput of ultra-low sulfur diesel (ULSD) is 3798 mmBtu/hr. Combined cycle combustion turbines w/ heat recovery steam generator (HRSG). Turbine inlets will have inlet evaporative cooling systems to cool inlet air during warm weather to increase power output.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMV @ 15% O2 3-UNIT OPERATING HOURS

Emission Limit 2: 5.0000 PPMV @ 15% O2 3-UNIT OPERATING HOURS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: LAER

Other Applicable Requirements:

Control Method: (A) Selective catalytic reduction (SCR) and low-NOx combustion technology (dry low-NOx combustion technology for natural gas; water injection for ULSD)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is for natural gas. Emission Limit 2 is for ULSD. Emission Limits 1 & 2 are effective beginning 36 months after commissioning. Limits 1 & 2 are not applicable during startup, shutdown, tuning and commissioning. Permit limits are as follows, applicable on a per-turbine basis, 3-hr average. For natural gas: Without duct burner: 25.2 lb/hr With duct burner: 32.0 lb/hr Other periods (incl. startup/shutdown): 228 lb/hr Extended startup: 228 lb/hr Tuning: 228 lb/hr For ULSD: Normal Operation: 83.6 lb/hr Extended startup: 277 lb/hr Tuning: 277 lb/hr See also Condition 2.1.6(a)(iv) of the issued permit for operation during transition.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.0000 PPMV @ 15 % O2 3 OPERATING-HOUR, ROLLED HOURLY, AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is not applicable during periods of startup, shutdown, tuning and commissioning. Permit limits are as follows, applicable on a per-turbine basis: For natural gas: Without duct burner: 15.4 lb/hr With duct burner: 19.0 lb/hr For ULSD: 17.0 lb/hr For periods of startup, shutdown and commissioning: Extended startups using natural gas: 1522 lb/hr Commissioning and other than extended startups using natural gas: 204 lb/hr ULSD: 231 lb/hr For periods of tuning: Natural Gas: 204 lb/hr ULSD: 231 lb/hr Averaging period for the above permit limits is 3-hour average. Also see Condition 2.1.6(a)(iv) of the issued permit for operation during transitions.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0037 LB/MMBTU 3-HOUR BLOCK AVERAGE

Emission Limit 2: 0.0167 LB/MMBTU 3-HOUR BLOCK AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is for natural gas. Emission limit 2 is for ULSD. Permit limits are as follows. Averaging time for all permit limits are 3-hour block average. For natural gas: Without duct burner: 8.6 lb/hr With duct burner: 14.4 lb/hr For ULSD: 34.3 lb/hr

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0069 LB/MMBTU 3-HOUR BLOCK AVERAGE

Emission Limit 2: 0.0320 LB/MMBTU 3-HOUR BLOCK AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practice

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emission Limit 1 is for natural gas. Emission Limit 2 is for ULSD. Emission Limits 1 and 2 and permit limits address PM10 and PM2.5 together as PM10/PM2.5. Permit limits are as follows. For natural gas: With duct burner: 18.9 lb/hr Without duct burner: 11.5 lb/hr For ULSD: 65.1 lb/hr

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) No controls feasible for use of natural gas. For ULSD, use ultra-low sulfur diesel as a backup fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are as follows. Permit limits are applicable on a 3-hour block average For natural gas, with duct burner: 2.8 lb/hr For natural gas, without duct burner: 2.3 lb/hr. For ULSD: 4.0 lb/hr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Equipment design and proper operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limit: 4,026,300 ton/yr, 12-month rolling average. See also Condition 2.1.2(h) of the issued permit.

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural Gas
Throughput: 96.00 mmBtu/hr

Process Notes: The auxiliary boiler is used on an intermittent basis (up to 4,000 hr/yr) to produce intermediate pressure steam for heating the heat recovery steam generators (HRSG) and combustion turbines.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0110 LB/MMBTU 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER

Other Applicable Requirements:

Control Method: (A) Ultra-low NOx burners and flue gas recirculation, air preheater, automated combustion management system with O2 trim system and automated water blowdown, and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Permit limits are 1.1 lb/hr and 2.2 ton/yr

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0370 LB/MMBTU 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are 3.6 lb/hr and 7.2 ton/yr

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: In the issued permit, PM, Total (TPM), addresses PM, PM10 and PM2.5. Permit limits are 0.72 lb/hr and 1.44 ton/yr

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limit is 0.20 ton/yr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 22500.0000 TON/YR 12-MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Fuel Heater
Process Type: 19.600 (Misc. Boilers, Furnaces, Heaters)
Primary Fuel: Natural Gas
Throughput: 12.80 mmBtu/hr
Process Notes: The fuel heater indirectly heats the natural gas fuel for the combustion turbines. Natural gas for the combustion turbines must be heated to counteract the cooling that occurs when the pressure of the gas is reduced.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0110 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (A) Low-NOx burners
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are 0.45 lb/hr and 2.0 ton/yr

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0800 LB/HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limits are 1.02 lb/hr and 4.5 ton/yr

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: The issued permit addresses TPM as PM, PM10 and PM2.5.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0140 LB/HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 6600.0000 TON/YR 12-MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency Engines
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Ultra-low sulfur diesel
Throughput: 0
Process Notes: Two emergency engine-generators. One large emergency engine-generator, 1500 kW output, will provide emergency power to the plant. One small emergency engine-generator, 125 kW output, will provide emergency power to the switchyard. Fuel used in the emergency engines must meet the requirements of 40 CFR 80.510(b), pursuant to 40 CFR 60.4207(b).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS

Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are LAER for NOx. For the large engine: 6.4 g/kW-hr For the small engine: 4.0 g/kW-hr Permit limits are as follows: For the large engine: 23.0 lb/hr and 1.7 ton/yr For the small engine: 1.2 lb/hr and 0.09 ton/yr

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for CO. For the large engine: 3.5 g/kW-hr For the small engine: 5.0 g/kW-hr Permit limits are as follows: For the large engine: 12.5 lb/hr and 0.9 ton/yr For the small engine 1.5 lb/hr and 0.11 ton/yr

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: In the issued permit, TPM addresses PM, PM10 and PM2.5 Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for PM. For the large engine: 0.20 g/kW-hr For the small engine: 0.30 g/kW-hr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limit: 241 tons/year (includes firewater engine)

Process/Pollutant Information

PROCESS NAME: Firewater Pump Engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Ultra-low sulfur diesel

Throughput: 0

Process Notes: A 422 horsepower engine will power the pump in the firewater system. Fuel must meet the requirements of 40 CFR 80.510(b), pursuant to 40 CFR 60.4207(b).

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: LAER
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are LAER for NOx. For NOx: 4.0 g/kW-hr

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for CO. For CO; 3.5 g/kW-hr

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: In the issued permit, TPM addresses PM, PM10 and PM2.5 Limits of the NSPS, 40 CFR 60 Subpart IIII, are BACT for PM. For PM: 0.20 g/kW-hr

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permit limit: 241 ton/year. (includes emergency engines)

Process/Pollutant Information

PROCESS NAME: Natural Gas Piping and Components
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel:
Throughput: 0
Process Notes: GHG and methane may leak from components, such as valves and flanges

POLLUTANT NAME: Methane
CAS Number: 74-82-8
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)
Emission Limit 1:
Emission Limit 2: 32.0000 TON/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Leak Detection and Repair (LDAR) program; "leakless" components
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Compliance is demonstrated using methods in 40 CFR 60 Subpart VVa, i.e., a leak is a methane concentration of 2000 ppm or greater.

Process/Pollutant Information

PROCESS NAME: Circuit Breakers

Process Type: 99.999 (Other Miscellaneous Sources)

Primary Fuel:

Throughput: 0

Process Notes: Electrical switchgear includes circuit breakers that use gaseous sulfur hexafluoride (SF6) as a dielectric insulating material. Emissions may result from leaks.

POLLUTANT NAME: Sulfur Hexafluoride

CAS Number: 2551-62-4
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 0.5000 % LEAK RATE CALENDAR YEAR AVERAGE
Emission Limit 2: 14.6000 LB/YR 12-MONTH ROLLING AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Compliance with emission limits demonstrated using procedures in 40 CFR 98 Subpart DD.

Process/Pollutant Information

PROCESS NAME: Roadways

Process Type: 99.140 (Paved Roads)

Primary Fuel:

Throughput: 0

Process Notes: Roadways that serve trucks delivering bulk materials, e.g., ULSD or deionized water, for the combustion turbines or selective catalytic regenerator reagent.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number:	PM
Test Method:	Unspecified
Pollutant Group(s):	(Particulate Matter (PM))
Emission Limit 1:	10.0000 % OPACITY
Emission Limit 2:	
Standard Emission:	

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(P) Paving is required for roads used by trucks transporting bulk materials.
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	TPM addresses PM, PM10 and PM2.5

Facility Information

RBLC ID:	MI-0435 (final)	**Date Determination**	
		Last Updated:	02/19/2019
Corporate/Company Name:	DTE ELECTRIC COMPANY	**Permit Number:**	19-18
Facility Name:	BELLE RIVER COMBINED CYCLE POWER PLANT	**Permit Date:**	07/16/2018 (actual)
Facility Contact:	MATTHEW PAUL 313-235-3374 MATTHEW.PAUL@DTEENERGY.COM	**FRS Number:**	Not Found
Facility Description:	Natural gas combined-cycle power plant	**SIC Code:**	4911
Permit Type:	B: Add new process to existing facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	ST. CLAIR		
Facility State:	MI		
Facility ZIP Code:	48054		
Permit Issued By:	MICHIGAN DEPT OF ENVIRONMENTAL QUALITY (Agency Name) MS. CINDY SMITH(Agency Contact) (517)284-6802 SMITHC17@MICHIGAN.GOV		
Other Agency Contact Info:	For technical questions regarding the permit, please contact the permit engineer, Mr. John Vial, at 517-284-6805 or at vialj@michigan.gov. Thank you.		

Permit Notes: The new combined cycle plant is proposed to be located near DTE's existing Belle River and St. Clair coal fired power plants. The three plants will be considered a single stationary source. It will have a capacity of 1,150 megawatts.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	176.0000 (Tons/Year)
Nitrogen Oxides (NOx)	268.2200 (Tons/Year)
Particulate Matter (PM)	160.0300 (Tons/Year)
Sulfur Oxides (SOx)	39.4200 (Tons/Year)
Volatile Organic Compounds (VOC)	90.5200 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: FGCTGHRSG (EUCTGHRSG1 & EUCTGHRSG2)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 0

Process Notes: Two (2) combined-cycle natural gas-fired combustion turbine generators, each with a heat recovery steam generator (CTGHRSG). Plant nominal 1,150 MW electricity production. Turbines are each rated at 3,658 MMBTU/H and HRSG duct burners are each rated at 800 MMBTU/H. The HRSGs are not capable of operating independently from the CTGs.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0045 LB/MMBTU EACH UNIT; 24-H ROLL AVG; NOT S.S.

Emission Limit 2: 17.5900 LB/H EACH UNIT; 24-H ROLL AVG; NOT S.S.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 3 CO emission limits in the permit; as follows: Emission limit 1 = 0.0045 LB/MMBTU based on a 24-hour rolling average as determined each operating hour, except during startup and shutdown (S.S.). The limit applies to each unit. Emission limit 2 = 17.59 LB/H based on a 24-hour rolling average as determined each operating hour except during startup and shutdown (S.S.). The limit applies to each unit. Emission limit 3 = 791.5 LB/H each operating hour during startup or shutdown. Oxidation catalyst reduction is expected to reduce CO by 85-90%. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMVD AT 15%O2; 24-H ROLL AVG; EACH UNIT;

Emission Limit 2: 28.9000 LB/H 24-H ROLL AVG; EACH UNIT; NOT S.S.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) SCR with DLNB (Selective catalytic reduction with dry low NOx burners).

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 4 NOx emission limits in the permit, described below: Emission limit 1 = 2 ppmvd at 15% O2 based on a 24-hour rolling average as determined each operating hour, except during startup and shutdown (S.S.). The limit applies to each unit. Emission limit 2 = 28.90 LB/H based on a 24-hour rolling average as determined each operating hour, except during startup and shutdown (S.S.). The limit applies to each unit. Emission limit 3 = 15 ppmvd at 15% O2 based on a 30-day rolling average as determined each operating day. The limit applies to each unit and is from NSPS KKKK. Emission limit 4 = 262.4 LB/H each operating hour during startup or shutdown (S.S.). The limit applies to each unit. The estimated efficiency of SCR with DLNB is a range of 80-90%. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in

the plan required in Special Condition III.2 in the permit.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 16.0000 LB/H HOURLY; EACH UNIT

Emission Limit 2: 12.2000 LB/H HOURLY; EACH UNIT W/O DUCT BURNER FIRING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost analysis was for the best scenario: 100 percent capture of PM2.5, where PM and PM10 calculations equaled PM2.5. Pulse Jet Fabric Filter Baghouse: minimum of $174,206 per ton Mechanical Shaker Fabric Filter Baghouse: minimum of $145,172 per ton Reverse-Air Fabric Filter Baghouse: minimum of $232,274 per ton Dry ESP (Wire-Plate Type): minimum of $116,721 per ton Dry ESP (Wire-Pipe Type): minimum of $261,309 per ton Wet ESP (Wire-Plate Type): minimum of $263,153 per ton Wet ESP (Wire-Pipe Type): minimum of $348,412 per ton Venturi Scrubber: minimum of $167,000 per ton

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 16.0000 LB/H HOURLY; EACH UNIT

Emission Limit 2: 12.2000 LB/H HOURLY; EACH UNIT W/O DUCT BURNER FIRING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost analysis was for the best scenario: 100 percent capture of PM2.5, where PM and PM10 calculations equaled PM2.5. Pulse Jet Fabric Filter Baghouse: minimum of $174,206 per ton Mechanical Shaker Fabric Filter Baghouse: minimum of $145,172 per ton Reverse-Air Fabric Filter Baghouse: minimum of $232,274 per ton Dry ESP (Wire-Plate Type): minimum of $116,721 per ton Dry ESP (Wire-Pipe Type): minimum of $261,309 per ton Wet ESP (Wire-Plate Type): minimum of $263,153 per ton Wet ESP (Wire-Pipe Type): minimum of $348,412 per ton Venturi Scrubber: minimum of $167,000 per ton

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 16.0000 LB/H HOURLY; EACH UNIT

Emission Limit 2: 12.2000 LB/H HOURLY; EACH UNIT W/O DUCT BURNER FIRING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost analysis was for the best scenario: 100 percent capture of PM2.5, where PM and PM10 calculations equaled PM2.5. Pulse Jet Fabric Filter Baghouse: minimum of $174,206 per ton Mechanical Shaker Fabric Filter Baghouse: minimum of $145,172 per ton Reverse-Air Fabric Filter Baghouse: minimum of $232,274 per ton Dry ESP (Wire-Plate Type): minimum of $116,721 per ton Dry ESP (Wire-Pipe Type): minimum of $261,309 per ton Wet ESP (Wire-Plate Type): minimum of $263,153 per ton Wet ESP (Wire-Pipe Type): minimum of $348,412 per ton Venturi Scrubber: minimum of $167,000 per ton

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0026 LB/MMBTU EACH UNIT; HOURLY EXCEPT S.S.
Emission Limit 2: 0.0013 LB/MMBTU EACH UNIT W/O DUCT BURNER FIRING; NOT SS
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Oxidation catalyst technology and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limits above are described further below: Emission limit 1 applies to each unit and is 0.0026 LB/MMBTU, hourly except during startup and shutdown. Emission limit 2 applies to each unit without duct burner firing and is 0.0013 LB/MMBTU, hourly except during startup and shutdown.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0013 LB/MMBTU HOURLY; EACH UNIT
Emission Limit 2: 5.0400 LB/H HOURLY; EACH UNIT W/O DUCT BURNER FIRING
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The estimated cost of controlling H2SO4 using FGD is over $100,000 per ton.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e

Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 2042773.0000 T/YR 12-MO ROLLING TIME PERIOD; EACH UNIT
Emission Limit 2: 794.0000 LB/MW-H 12-OPER MO ROLL AVG; EACH UNIT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Energy efficiency measures
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The estimated cost of CCS is over $70,000,000 per year. This does not take into account the large parasitic load caused by a CCS system. For emission limit 2 above (794 LB/MW-H), compliance is determined monthly at the end of the initial and each subsequent 12-operating month period. The first month of the initial compliance period is defined in 40 CFR 60.5525(c)(1)(i).

Process/Pollutant Information

PROCESS NAME: FGCTGHRSG (EUCTGHRSG1 & EUCTGHRSG2)--Startup & Shutdown
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: Natural gas
Throughput: 0
Process Notes: This section is the startup and shutdown emission limits for FGCTGHRSG. Two 3,658 MMBTU/H natural gas-fired combustion turbine generators (CTGs) coupled with heat recovery steam generators (HRSGs). The HRSGs are equipped with natural gas-fired duct burners rated at 800 MMBTU/H to provide heat for additional steam production. The HRSGs are not capable of operating independently from the CTGs.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 791.5000 LB/H EACH UNIT; OPERATING HOUR DURING S.S.
Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit is 791.5 LB/H, per operating hour during startup or shutdown. The limit applies to each unit. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 262.4000 LB/H EACH UNIT; OPERATING HOUR DURING S.S.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (A) SCR with DLNB (Selective catalytic reduction with dry low NOx burners).

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit above is 262.4 LB/H for each unit and is per operating hour during startup or shutdown. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the

combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit.

Process/Pollutant Information

PROCESS NAME: EUAUXBOILER: Auxiliary Boiler

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 99.90 MMBTU/H

Process Notes: A natural gas-fired auxiliary boiler, rated at 99.9 MMBTU/H to facilitate startup of the CTG/HRSG trains and to provide steam to the steam turbine generator seals. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0750 LB/MMBTU HOURLY
Emission Limit 2: 7.4900 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0360 LB/MMBTU HOURLY
Emission Limit 2: 3.6000 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low NOx burners/Flue gas recirculation.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The cost of selective catalytic reduction (SCR) is over $100,000 for the project.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0070 LB/MMBTU HOURLY
Emission Limit 2: 0.7000 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices, low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0070 LB/MMBTU HOURLY
Emission Limit 2: 0.7000 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices, low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0070 LB/MMBTU HOURLY
Emission Limit 2: 0.7000 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices, low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0080 LB/MMBTU HOURLY
Emission Limit 2: 0.8000 LB/H HOURLY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.3400 GR S/100 SCF FUEL SUPPLIER RECORDS
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices, low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 25623.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Energy efficiency measures, use of natural gas.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUEMENGINE: Emergency engine
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 2.00 MW
Process Notes: A nominal 2 MW diesel-fueled emergency engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 6.4000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit is actually in "NMHC+NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.1800 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.1800 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.8900 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER RECORDS OR TEST DATA
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices, low sulfur fuel.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight. Fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 161.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Energy efficient design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUFPENGINE: Fire pump engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 399.00 BHP
Process Notes: A 399 brake HP diesel-fueled emergency fire pump engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 4.0000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit is actually in "NMHC+ NOx" (nonmethane hydrocarbon plus NOx) which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.1300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) State of the art combustion design.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER RECORDS OR TEST DATA
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices, low sulfur fuel.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight, using fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 86.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Energy efficient design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUFUELHTR1: Natural gas fired fuel heater

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 20.80 MMBTU/H

Process Notes: A natural gas-fired 20.8 MMBTU/H heat input HP fuel heater.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.7700 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion controls.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.7500 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Low NOx burner

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 μ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.1700 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion controls

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.3400 GR S/100 SCF FUEL SUPPLIER RECORDS
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 6310.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Natural gas fuel

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limit above is the Total for EUFUELHTR1 & EUFUELHTR2.

Process/Pollutant Information

PROCESS NAME: EUFUELHTR2: Natural gas fired fuel heater
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural gas
Throughput: 3.80 MMBTU/H
Process Notes: A natural gas-fired 3.8 MMBTU/H heat input HP fuel heater.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.1400 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.1400 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low NOx burner
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0300 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion controls.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.3400 GR S/100 SCF FUEL SUPPLIER RECORDS
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 6310.0000 T/YR 12-MONTH ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Natural gas fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUCOOLINGTWR: Cooling Tower
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel:
Throughput: 0
Process Notes: A 14 cell wet mechanical draft cooling tower equipped with drift eliminators.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 4.0300 LB/H HOURLY
Emission Limit 2: 0.0005 % VENDOR CERTIF. MAX DRIFT RATE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) High efficiency drift/mist eliminators
Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a 3rd emission limit in the permit-- Emission Limit 3 = Total Dissolved Solids (TDS) in circulating water = 3000 ppmw, monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency of the controls is to reduce drift loss to 0.0005%.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4800 LB/H HOURLY

Emission Limit 2: 0.0005 % VENDOR CERTIF. MAX DRIFT RATE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) High efficiency drift/mist eliminators

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a 3rd emission limit in the permit as follows: Emission Limit 3 is Maximum Total Dissolved Solids (TDS) in circulating water = 3000 ppmw, monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency of the controls is to reduce drift loss to 0.0005%.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4800 LB/H HOURLY

Emission Limit 2: 0.0005 % VENDOR CERTIF MAX DRIFT RATE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:	
Control Method:	(A) High efficiency drift/mist eliminators
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	No
Pollutant/Compliance Notes:	There is a 3rd emission limit as follows: Emission Limit 3 is Maximum Total Dissolved Solids (TDS) in circulating water = 3000 ppmw, monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency of the controls is to reduce drift loss to 0.0005%.

Facility Information

RBLC ID:	MI-0433 (final)	**Date Determination**	
		Last Updated:	02/19/2019
Corporate/Company Name:	MARSHALL ENERGY CENTER LLC	**Permit Number:**	167-17 AND 168-17
Facility Name:	MEC NORTH, LLC AND MEC SOUTH LLC	**Permit Date:**	06/29/2018 (actual)
Facility Contact:	WILLARD LADD 914-468-2402 WLADD@DEVELOPMENTPARTNERS.COM	**FRS Number:**	Not Found
Facility Description:	Natural gas combined cycle power plant (two plants: north and south)	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	CALHOUN		
Facility State:	MI		
Facility ZIP Code:	49068		
Permit Issued By:	MICHIGAN DEPT OF ENVIRONMENTAL QUALITY (Agency Name) MS. CINDY SMITH(Agency Contact) (517)284-6802 SMITHC17@MICHIGAN.GOV		
Other Agency Contact Info:	There are two plants (MEC North, LLC and MEC South, LLC) that will operate as separate entities but they are considered a single stationary source and the installation of the two new plants was reviewed as a single project. There are two Air Permits to Install for the two plants (167-17 and 168-17). For technical questions regarding either of the two permits, please contact the permit engineer Ms. Catherine Asselin at 517-284-6786 or at asselinc@michigan.gov. Thank you.		
Permit Notes:	There are two plants that will operate as separate entities and each received a separate Air Permit to Install, but they are considered one stationary source and were reviewed as one project.		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	310.5200 (Tons/Year)
Nitrogen Oxides (NOx)	578.8100 (Tons/Year)
Particulate Matter (PM)	61.2300 (Tons/Year)

Sulfur Oxides (SOx)	56.6100 (Tons/Year)
Volatile Organic Compounds (VOC)	189.2200 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: EUCTGHRSG (North Plant): A combined-cycle natural gas-fired combustion turbine generator with heat recovery steam generator.

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 500.00 MW

Process Notes: Nominal 500 MW electricity production. Turbine rating of 3,080 MMBTU/hr (HHV) and HRSG duct burner rating of 755 MMBTU/hr (HHV). A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/hr (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/hr (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR, and an oxidation catalyst.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 4.0000 PPMVD AT 15%O2; 24-H ROLL AVG; NOT INCL ST/SH

Emission Limit 2: 788.6000 LB/H OPERATING HR DURING STARTUP OR SHUTDOWN

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are two emission limits: Emission limit 1 = 4 ppmvd at 15%O2 based on a 24-hr rolling average as determined each operating hour, except during startup or shutdown. Emission limit 2 = 788.6 lb/h each operating hour during startup or shutdown. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from teh lowering of teh turbine output below the demonstrated steady state level, with teh intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2. Startup and shutdown hours are limits to 300 hours per 12-month rolling time period.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMVD AT 15%O2; 24-H ROLL AVG; NOT S.S.

Emission Limit 2: 29.7000 LB/H 24-H ROLL AVG; NOT STARTUP/SHUTDOWN (SS)

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) SCR with DLNB (Selective catalytic reduction with Dry Low NOx burners).

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 4 NOx emission limits for EUCTGHRSG as follows: Emission limit 1 = 2 ppmvd at 15%O2 based on a 24-hour rolling average as determined each operating hour except during startup and shutdown. Emission Limit 2 = 29.7 lb/h based on a 24-hour rolling average as determined each operating hour except during startup and shutdown. Emission Limit 3 = 15 ppmvd at 15%O2 based on a 30-day rolling average as determined each operating day. This limit is from NSPS KKKK. Emission limit 4 = 126.5 lb/h each operating hour during startup or shutdown. Estimated efficiency of SCR with DLNB is a range of 80-90% Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level shall be described in the plan required by Special Condition III.2. Startup and shutdown hours are limited to 300 hours per 12-month rolling time period.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.8000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: (5.8 lb/hr is equivalent to 0.002 lb/MMBTU which is about 30 percent of PM10 and PM2.5) The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10 which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulse jet fabric filter baghouse: average of $334,000 per ton. Mechanical shaker fabric filter baghouse: average of $370,500 per ton Reverse-Air fabric filter baghouse: average of $437,000 per ton Dry ESP (Wire-plate type): average of $438,500 per ton Dry ESP (Wire-pipe type): average of $278,500 per ton Wet ESP (Wire-plate type): average of $528,500 per ton Wet ESP (Wire-pipe type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.1000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: (19.1 lb/h is equivalent to 0.005 lb/MMBTU which includes startup and shutdown). The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10 which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulset jet fabric filter baghouse: average of $334,000 per ton. Mechanical shaker fabric filter baghouse: average of $370,500 per ton. Reverse-air fabric filter baghouse: average of $437,000 per ton. Dry ESP (Wire-plate type): average of $438,500 per ton Dry ESP (Wire-pipe type): average of $278,500 per ton Wet ESP (Wire-plate type): average of $528,500 per ton Wet ESP (Wire-pipe type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.1000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: (19.1 pph is equivalent to 0.005 lb/MMBTU, which includes startup and shutdown). The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulse Jet Fabric Filter Baghouse: average of $334,000 per ton Mechanical Shaker Fabric Filter Baghouse: average of $370,500 per ton Reverse-Air Fabric Filter Baghouse: average of $437,000 per ton Dry ESP (Wire-Plate Type): average of $438,500 per ton Dry ESP (Wire-Pipe Type): average of $278,500 per ton Wet ESP (Wire-Plate Type): average of $528,500 per ton Wet ESP (Wire-Pipe Type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.0000 PPMVD AT 15%O2; HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Emission limit 1 above does not include startup and shutdown. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2. Startup and Shutdown hours are limited to 300 hours per 12 month rolling time period.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 6.6000 LB/H HOURLY

Emission Limit 2: 0.6000 GR S/100 SCF FUEL SUPPLIER RECORDS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a 3rd emission limit which is 0.060 lb/MMBTU based on the NSPS. There is also a NSPS natural gas material limit of 20 grains of sulfur per 100 scf. Even though MEC determined FGD to be technically infeasible due to the low SO2 content in the flue gas, they also provided an economic analysis. The use of pipeline quality natural gas and good combustion practices were used for the emission calculations. All reductions in emissions were with these potential control options already incorporated as baseline conditions. They concluded that with costs of over $200,000 per ton of controlled SO2 and H2SO4 combined, FGD also would not be economically feasible.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 2.7000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: H2SO4 was calculated from manufacturer's data, assuming 100% conversion of SO3 to H2SO4. Even though MEC determined FGD and wet ESPs to be technically infeasible due to the low H2SO4 content in the flue gas, they also provided economic analyses. The use of pipeline quality natural gas and good combustion practices were used for the emission calculations. All reductions in emissions were with these potential control options already incorporated as baseline conditions. They concluded that with costs of over $200,000 per ton of controlled SO2 and H2SO4 combined, FGD would not be economically feasible, and with costs of over $400,000 per ton of controlled particulate H2SO4 removed, wet ESPs would also not be economically feasible.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1978297.0000 T/YR 12-MO ROLL TIME PERIOD

Emission Limit 2: 806.0000 LB/MWH 12- OPERATING MONTH ROLL AVG

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Emission limit 2 is 806 LB/MWH based on 12-operating month rolling average basis as determined at the end of each operating calendar month. Compliance is determined monthly at the end of the initial and each subsequent 12-operating month period. The first month of the initial compliance period is defined in 40 CFR 60.5525(c)(1)(i). The amine-based CCS technologies were used since these are generally considered to be the most feasible near-term deployable technology for possible future CO2 removal. CCS is assumed to be about 90 percent effective. Using the lowest capital cost range, the estimated capital cost for CCS for the proposed project is approximately $393 million, including the cost of a pipeline to transport the CO2 and the cost of the CO2 control system. The cost per ton was close to $100/ton, which was not considered economically feasible.

Process/Pollutant Information

PROCESS NAME: EUAUXBOILER (North Plant): Auxiliary Boilder

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 61.50 MMBTU/H

Process Notes: A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0800 LB/MMBTU HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The cost of an oxidation catalyst is between $6,000 to $31,000 per ton (average of $18,500) for CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0400 LB/MMBTU 30-DAY ROLLING AVG TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Low NOx burners/flue gas recirculation and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Selective catalytic reduction (SCR) was calculated to be over $18,000/ton for NOx.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 LB/MMBTU HOURLY
Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4600 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: At greater than $80,000 per year annual cost for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a venturi scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4600 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: At greater than $80,000 per year annual cost for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a venturi scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0040 LB/MMBTU HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost of an oxidation catalyst is between $6,000 to $31,000/ton (average $18,500) for CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 1.8000 LB/MMSCF MONTHLY
Emission Limit 2: 0.6000 GR S/100 SCF FUEL SUPPLIER RECORDS
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The natural gas material limit of 2,000 grains of sulfur per MMSCF is what the emission factor is based upon.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 31540.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUEMENGINE (North Plant): Emergency Engine

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel

Throughput: 1341.00 HP

Process Notes: A 1,341 HP (1,000 kilowatts (KW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 3.5000 G/KW-H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 6.4000 G/KW-H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit is actually in "NMHC+NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5400 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5200 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.8600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER CERTIF. RECORDS
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limit above is the diesel material limit of 15 ppm of sulfur (0.0015 percent) by weight. Fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil is compliance method.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 383.0000 T/YR 12-MO. ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUFPENGINE (North Plant): Fire pump engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 300.00 HP
Process Notes: A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6000 G/BHP-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 3.0000 G/BHP-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit is actually in "NMHC+NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/BHP-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.7500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER RECORDS
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 85.6000 T/YR 12-MONTH ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUCOOLTOWER (North Plant): Cooling Tower
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel:
Throughput: 170000.00 GAL/M
Process Notes: An eight-cell wet mechanical draft cooling tower and a nominal rated circulation rate of 170,000 gallons per minute (GAL/M). Particulate in water droplets will be controlled with high efficiency drift/mist eliminators.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 5.5900 T/YR 12-MONTH ROLLING TIME PERIOD
Emission Limit 2: 0.0005 % VENDOR CERTIFIED MAX DRIFT RATE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) High efficiency drift/mist eliminators

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a third emission limit in the permit: Maximum total dissolved solids (TDS) in circulating water = 3000 PPMW; monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency is to reduce drift loss to 0.0005%.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 2.8500 T/YR 12-MONTH ROLLING TIME PERIOD

Emission Limit 2: 0.0005 % VENDOR-CERTIFIED MAX DRIFT RATE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) High efficiency drift/mist eliminators

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a third emission limit in the permit which is the Maximum Total Dissolved Solids (TDS) in circulating water = 3000 PPMW; monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency is to reduce drift loss to 0.0005%.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 2.8500 T/YR 12-MONTH ROLLING TIME PERIOD

Emission Limit 2: 0.0005 % VENDOR CERTIIFIED MAX DRIFT RATE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) High efficiency drift/mist eliminators

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a third emission limit which is Maximum Total Dissolved Solids (TDS) in circulating water = 3000 PPMW; monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency is to reduce drift loss to 0.0005%.

Process/Pollutant Information

PROCESS NAME: EUCTGHRSG (South Plant): A combined cycle natural gas-fired combustion turbine generator with heat recovery steam generator.

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 500.00 MW

Process Notes: A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/H (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/H (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR and an oxidation catalyst.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 4.0000 PPMV AT 15%O2; 240HR ROLL AVG; NOT S.S.

Emission Limit 2: 788.6000 LB/H OPERATING HR DURING STARTUP OR SHUTDOWN

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The first emission limit above is 4 PPMVD at 15%O2 based on a 24-hour rolling average as determined each operating hour EXCEPT during startup and shutdown. Emission limit 2 above is 788.6 LB/H during each operating hour during startup or shutdown (S.S.). Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit. Startup and Shutdown hours are limited to 300 hours per 12 month rolling time period.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMV AT 15%O2; 24-HR ROLL AVG NOT S.S.

Emission Limit 2: 29.7000 LB/H 24-H ROLL AVG NOT S.S.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) SCR with DLNB (Selective catalytic reduction with dry low NOx burners).

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The estimated efficiency of SCR with DLNB is a range of 80-90%. There are 4 NOx emission limits in the permit, as follows: Emission Limit 1 = 2 ppmvd at 15%O2 based on a 24-hour rolling average as determined each operating hour except during startup and shutdown (S.S.). Emission limit 2 - 15 ppmvd at 15%O2 based on a 30-day rolling average as determined each operating day (not including startup and shutdown) per NSPS KKKK. Emission limit 3 = 29.7 LB/H based on a 24-hour rolling average as determined each operating hour except during startup and shutdown. Emission limit 4 = 126.5 LB/H based on each operating hour during startup or shutdown. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design

capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit. Startup and Shutdown hours are limited to 300 hours per 12 month rolling time period.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.8000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 5.8 pph is equivalent to 0.002 lb/MMBTU, which is about 30 percent of PM10 and PM2.5. The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulse Jet Fabric Filter Baghouse: average of $334,000 per ton Mechanical Shaker Fabric Filter Baghouse: average of $370,500 per ton Reverse-Air Fabric Filter Baghouse: average of $437,000 per ton Dry ESP (Wire-Plate Type): average of $438,500 per ton Dry ESP (Wire-Pipe Type): average of $278,500 per ton Wet ESP (Wire-Plate Type): average of $528,500 per ton Wet ESP (Wire-Pipe Type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.1000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 19.1 pph is equivalent to 0.005 lb/MMBTU, which includes startup and shutdown The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulse Jet Fabric Filter Baghouse: average of $334,000 per ton Mechanical Shaker Fabric Filter Baghouse: average of $370,500 per ton Reverse-Air Fabric Filter Baghouse: average of $437,000 per ton Dry ESP (Wire-Plate Type): average of $438,500 per ton Dry ESP (Wire-Pipe Type): average of $278,500 per ton Wet ESP (Wire-Plate Type): average of $528,500 per ton Wet ESP (Wire-Pipe Type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.1000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 19.1 pph is equivalent to 0.005 lb/MMBTU, which includes startup and shutdown The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. Pulse Jet Fabric Filter Baghouse: average of $334,000 per ton Mechanical Shaker Fabric Filter Baghouse: average of $370,500 per ton Reverse-Air Fabric Filter Baghouse: average of $437,000 per ton Dry ESP (Wire-Plate Type): average of $438,500 per ton Dry ESP (Wire-Pipe Type): average of $278,500 per ton Wet ESP (Wire-Plate Type): average of $528,500 per ton Wet ESP

(Wire-Pipe Type): average of $403,000 per ton Venturi Scrubber: average of $1,321,000 per ton

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.0000 PPMVD AT 15%O2; NOT INCL. STARTUP/SHUTDOWN

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in Special Condition III.2 in the permit. Startup and Shutdown hours are limited to 300 hours per 12 month rolling time period.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 6.6000 LB/H HOURLY

Emission Limit 2: 0.6000 GR S/100 SCF FUEL SUPPLIER RECORDS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 3 emission limits and one material limit in the permit as follows: Emission Limit 1 = 6.6 LB/H Emission Limit 2 = 0.6 GR Sulfur/100 scf Emission Limit 3 = 0.060 LB/MMBTU from the NSPS Emission Limit 4 is a NSPS natural gas material limit of 20 grains of sulfur per 100 scf. Even though MEC determined FGD to be technically infeasible due to the low SO2 content in the flue gas, they also provided an economic analysis. The use of pipeline quality natural gas and good combustion practices were used for the emission calculations. All reductions in emissions were with these potential control options already incorporated as baseline conditions. They concluded that with costs of over $200,000 per ton of controlled SO2 and H2SO4 combined, FGD also would not be economically feasible.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 2.7000 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: H2SO4 was calculated from manufacturer's data, assuming 100% conversion of SO3 to H2SO4. Even though MEC determined FGD and wet ESPs to be technically infeasible due to the low H2SO4 content in the flue gas, they also provided economic analyses. The use of pipeline quality natural gas and good combustion practices were used for the emission calculations. All reductions in emissions were with these potential control options already incorporated as baseline conditions. They concluded that with costs of over $200,000 per ton of controlled SO2 and H2SO4 combined, FGD would not be economically feasible, and with costs of over $400,000 per ton of controlled particulate H2SO4 removed, wet ESPs would also not be economically feasible.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1978297.0000 T/YR 12-MO ROLLING TIME PERIOD

Emission Limit 2: 806.0000 LB/MW-H 12-OPERATING MONTH ROLL AVG BASIS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: For emission limit 2 (806 LB/MW-H) it is based on a 12-operating month rolling average basis as determined at the end of each operating calendar month (basis is BACT & NSPS TTTT). Compliance is determined monthly at the end of the initial and each subsequent 12-operating month period. The first month of the initial compliance period is defined in 40 CFR 60.5525(c)(1)(i). The amine-based CCS technologies were used since these are generally considered to be the most feasible near-term deployable technology for possible future CO2 removal. CCS is assumed to be about 90 percent effective. Using the lowest capital cost range, the estimated capital cost for CCS for the proposed project is approximately $393 million, including the cost of a pipeline to transport the CO2 and the cost of the CO2 control system. The cost per ton was close to $100/ton, which was not considered economically feasible.

Process/Pollutant Information

PROCESS NAME: EUAUXBOILER (South Plant): Auxiliary Boiler

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 61.50 MMBTU/h

Process Notes: A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0800 LB/MMBTU HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The cost of an oxidation catalyst is between $6,000 to $31,000/ton (average of $18,500) for CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0400 LB/MMBTU 30 DAY ROLLING AVG TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Low NOx burners/flue gas recirculation and good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Selective catalytic reduction (SCR) was calculated to be over $18,000/ton for NOx.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4600 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: At greater than $80,000 per year annual cost for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a venturi scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4600 LB/H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: At greater than $80,000 per year annual cost for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a venturi scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0040 LB/MMBTU HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The cost of an oxidation catalyst is between $6,000 to $31,000/ton (average of $18,500) for CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 1.8000 LB/MMSCF MONTHLY

Emission Limit 2: 0.6000 GR S/100 SCF FUEL SUPPLIER RECORDS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The natural gas material limit of 2,000 grains of sulfur per MMscf is what the emission factor is based upon.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 31540.0000 T/YR 12-MO ROLLING TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUEMENGINE (South Plant): Emergency Engine
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 1341.00 HP
Process Notes: A 1,341 HP (1,000 kilowatts (kW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 6.4000 G/KW-H HOURLY
Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and meeting NSPS IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The limit is actually in "NMHC+NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 G/KW-H HOURLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.5400 LB/H HOURLY

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5200 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.8600 LB/H HOURLY

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $30,000/ton for PM10, CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER RECORDS OR SMPLE TEST DATA
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight. Fuel supplier certification records or fuel sample test data, for each deliver of diesel fuel oil.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 383.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUFPENGINE (South Plant): Fire pump engine
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 300.00 HP
Process Notes: A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6000 G/BPH-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 3.0000 G/BHP-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limit is actually in "NMHC + NOx" (nonmethane hydrocarbon plus NOx) which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/BHP-H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: EPA/OAR OTM 27 and Mthd 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (B) Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.7500 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is $39,500/ton for PM10, CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 15.0000 PPM FUEL SUPPLIER RECORDS OR FUEL SAMPL DATA
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight based on fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 85.6000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUCOOLTOWER (South Plant): Cooling Tower
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel: NA
Throughput: 170000.00 GAL/M
Process Notes: An eight-cell, wet mechanical draft cooling tower and a nominal rated circulation rate of 170,000 gallons per minute (GAL/M). Particulate in water droplets will be controlled with high efficiency drift/mist eliminators.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 5.5900 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2: 0.0005 % VENDOR-CERTIF. MAX DRIFT RATE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) High efficiency drift/mist eliminators.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: There is a third emission limit in the permit, as follows: Maximum total dissolved solids (TDS) in circulating water = 3000 ppmw, monthly as determined based upon weekly and monthly parameter monitoring.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.8500 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2: 0.0005 % VENDOR-CERTIF. MAX DRIFT RATE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) High efficiency drift/mist eliminators.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: There is a third emission limit as follows: Maximum Total Dissolved Solids (TDS) in circulating water = 3000 ppmw; monthly as determined based upon weekly and monthly parameter monitoring. Estimated efficiency of add on controls is to reduce drift loss to 0.0005%.

POLLUTANT NAME:	Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number:	PM
Test Method:	Unspecified
Pollutant Group(s):	(Particulate Matter (PM))
Emission Limit 1:	2.8500 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:	0.0005 % VENDOR-CERTIF. MAX DRIFT RATE
Standard Emission:	

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(A) High efficiency drift/mist eliminators.
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	No
Pollutant/Compliance Notes:	There is a third emission limit in the permit as follows: Maximum Total Dissolved Solids (TDS) in circulating water = 3000 ppmw; monthly as determined based upon weekly and monthly parameter monitoring. The estimated efficiency of the add on controls is to reduce drift loss to 0.0005%.

Facility Information

RBLC ID:	VA-0328 (final)	**Date Determination**	
		Last Updated:	06/19/2019
Corporate/Company Name:	NOVI ENERGY	**Permit Number:**	52588
Facility Name:	C4GT, LLC	**Permit Date:**	04/26/2018 (actual)
Facility Contact:	ANAND GANGADHARAN (248) 735-6684 AGANGADH@NOVIENERGY.COM	**FRS Number:**	Not Found
Facility Description:	Natural gas-fired combined cycle power plant	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	3	**COUNTRY:**	USA
Facility County:	USA		
Facility State:	VA		

Facility ZIP Code: 23030

Permit Issued By: VIRGINIA DEPT. OF ENVIRONMENTAL QUALITY; DIVISION OF AIR QUALITY (Agency Name)
PAT CORBETT(Agency Contact) (804)698-4016 patrick.corbett@deq.virginia.gov

Other Agency Contact Info: Permit Writer, Alison Sinclair:
Email: Alison.Sinclair@deq.virginia.gov
Phone: 804-527-5155

Permit Notes: The permit was written with two options for the turbines: Option 1 - GE 7HA.02 Option 2 - Siemens SGT6-8000H Facility Wide Pollutants for Siemens: CO: 293.5 NOx: 295.8 PM: 253.8 SOx: 39.3 VOC: 113.7

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	222.7000 (Tons/Year)
Nitrogen Oxides (NOx)	295.7000 (Tons/Year)
Particulate Matter (PM)	168.4000 (Tons/Year)
Sulfur Oxides (SOx)	38.8000 (Tons/Year)
Volatile Organic Compounds (VOC)	86.2000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: GE Combustion Turbine - Option 1 - Normal Operation

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: natural gas

Throughput: 34000.00 MMCF/YR

Process Notes: Option 1: Two on one configuration: 3,482 MMBtu/hr combustion turbine with 475 MMBtu/hr duct-fired HRSG. Emission limits reflect the operation of one turbine with or without duct firing.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0069 LB/MMBTU WITHOUT DUC AV OF 3 TEST RUNS

Emission Limit 2: 0.0049 LB/MMBTU WITH DUC AV OF 3 TEST RUNS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) good combustion practices and the use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12-month rolling average.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Additional limits: 12.2 lb/hr without duct burning; 17.3 lb/hr with duct burning. These short term limits apply at all times.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0069 LB/MMBTU WITHOUT DUC AV OF 3 TEST RUNS

Emission Limit 2: 0.0049 LB/MMBTU WITH DUC AV OF 3 TEST RUNS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) good combustion practices and the use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12-month rolling average.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Additional limits: 12.2 lb/hr without duct burning; 17.3 lb/hr with duct burning. These short term limits apply at all times.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: fuel sulfur monitoring records

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0011 LB/MMBTU 3 HR AVG

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: NSPS
Control Method: (P) use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12-month rolling average.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Short term limits apply at all times. Determined by fuel monitoring

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Other
Other Test Method: 40 CFR 60, Methods 7E or 20
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 2.0000 PPMVD @ 15% O2 1 H AV
Emission Limit 2: 141.3000 T/YR 12 MO ROLLING TOTAL
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (A) dry, low NOx burners and selective catalytic reduction
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Alternative emission limits apply during tuning, water washing, startup and shutdown. CEMS required.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 1.0000 PPMVD@ 15% O2 3 HR AV/WITHOUT DB
Emission Limit 2: 1.6000 PPMVD@ 15% O2 3 HR AV/WITH DB
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (B) Oxidation catalyst and good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Alternative emission limits apply during startup and shutdown. CEMS required.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.7000 PPMVD @ 15% O2 3 HR AV/WITHOUT DB
Emission Limit 2: 1.4000 PPMVD @ 15% O2 3 HR AV/WITH DB
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP , NSPS
Control Method: (B) Oxidation catalyst and good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Alternative emission limits apply during startup and shutdown. Compliance is based on compliance with CO limits, determined by CEMS.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9
Test Method: Other
Other Test Method: Monitoring sulfur content as per NSPS Subpart KKKK
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 2.5000 LB/H 3 H AV/WITHOUT DUCT BURNING

Emission Limit 2: 2.7000 LB/H 3 H AV/WITH DUCT BURNING
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP , NSPS
Control Method: (P) use of natural gas with a sulfur content of no more than 0.4 gr/100scf, 12-mo rolling av
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Short term limits apply at all times. Compliance based on fuel sulfur monitoring.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 883.0000 LB CO2E/MW-H 12 MO ROLLING TOTAL
Emission Limit 2: 6745.0000 BTU/KW-H NET HHV INITIAL HEAT RATE TEST
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Energy efficient combustion practices and low GHG fuels
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Compliance with the lb/Mw-hr limit can be based on CO2 CEMs or calculations, monthly by summing the CO2e emissions and dividing by the electrical energy output. Complianc with the heat rate limit (Btu/kW-hr) is based on an initial heat rate test on power block.

Process/Pollutant Information

PROCESS NAME: Siemens Combusion Turbine - Option 2 - Normal Operation

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural Gas

Throughput: 35000.00 MMCF/YR

Process Notes: Option 2: Two on one configuration: 3,116 MMBtu/hr combustion turbine with 991 MMBtu/hr duct-fired HRSG. Emission limits reflect the operation of one turbine with or without duct firing.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0065 LB/MMBTU AV OF 3 TEST RUNS/WITHOUT DUCT BURNING

Emission Limit 2: 0.0065 LB/MMBTU AV OF 3 TEST RUNS/WITH DUCT BURNING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) good combustion practices and the use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12 mo rolling av.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Additional limits: 13.7 lb/hr without duct burning; 24.2 lb/hr with duct burning. These short term limits apply at all times.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0065 LB/MMBTU AV OF 3 TEST RUNS/WITHOUT DUCT BURNING

Emission Limit 2: 0.0065 LB/MMBTU AV OF 3 TEST RUNS/WITH DUCT BURNING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) good combustion practices and the use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12-month rolling average.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Additional limits: 13.7 lb/hr without duct burning; 24.2 lb/hr with duct burning. These short term limits apply at all times.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0011 LB/MMBTU 3 H AV

Emission Limit 2: 19.3000 T/YR

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , SIP

Control Method: (P) use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12 mo rolling av.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Short term limits apply at all times. Compliance based on fuel sulfur content measurements and annual fuel consumption

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Other

Other Test Method: 40 CFR 60, METHODS 7E OR 20

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0000 PPMVD @ 15% O2 1 H AV

Emission Limit 2: 141.4000 T/YR 12 MO ROLLING TOTAL

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (A) DRY, LOW NOx BURNERS & SCR
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Alternative emission limits apply during tuning, water washing, startup and shutdown. CEMS required.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 1.8000 PPMVD @ 15% O2 3 H AV/WITH OR WITHOUT DB
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (B) Oxidation catalyst & good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Alternative emission limits apply during tuning, water washing, startup and shutdown. CEMS required.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.0000 PPMVD @ 15% O2 3 H AV/WITHOUT DB
Emission Limit 2: 2.0000 PPMVD @ 15% O2 3 H AV/WITH DB
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (B) Oxidation catalyst and good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Alternative emission limits apply during startup and shutdown. Compliance is based on compliance with CO limits, determined by CEMS.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Other
Other Test Method: Monitoring sulfur content as per NSPS Subpart KKKK
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 2.2000 LB/H 3 H AV/WITHOUT DB
Emission Limit 2: 2.7000 LB/H 3 H AV/WITH DB
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) use of natural gas with a sulfur content of no more than 0.4 gr/100scf, 12 mo rolling av.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Short term limits apply at all times.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 883.0000 LB CO2E/MW H 12 MO ROLLING TOTAL

Emission Limit 2: 6625.0000 BTU/KW H NET HHV INITIAL HEAT RATE TEST

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Energy efficient combustion practices and low GHG fuels

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Compliance with the LB/MW H limit can be based on CO2 CEMS or calculations, monthly by summing the CO2e emissions & dividing the electrical energy output. Compliance with the heat rate limit (BTU/KW H) is based on an initial heat rate test on power block.

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler

Process Type: 12.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural Gas

Throughput: 902.00 mmcf/y

Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0110 LB/MMBTU CORRECTED TO 3% O2

Emission Limit 2: 1.2000 LB/H

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Low NOx burners

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Annual limit of 5.1 tons/yr on a 12-month rolling total. Compliance based on stack test and annual fuel throughout

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0370 LB/MMBTU
Emission Limit 2: 3.9000 LB/H
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) good combustion practices and clean fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Compliance based on stack test. Annual limit 17.1 T/YR based on fuel throughput.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.8000 LB/H
Emission Limit 2: 3.3000 T/YR 12 MO ROLLING TOTAL
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12-mo rolling av.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.8000 LB/H
Emission Limit 2: 3.3000 T/YR 12 MO ROLLING TOTAL
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas with a max sulfur content of 0.4 gr/100 scf on a 12-mo rolling av.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0012 LB/MMBTU
Emission Limit 2: 0.6000 T/YR 12 MO ROLLING AV
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP

Control Method: (P) The use of pipeline quality natural gas with a max sulfur content of 0.4 gr/100 scf on a 12 mo rolling av.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Compliance is based on compliance with fuel sulfur limit

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) The use of pipeline quality natural gas with a max sulfur content of 0.4 gr/100 scf on a 12 mo rolling av.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Compliance is based on compliance with fuel sulfur content.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0050 LB/MMBTU
Emission Limit 2: 2.3000 T/YR 12 MO ROLLING AV
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP

Control Method: (P) good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 53863.0000 T/YR 12 MO ROLLING TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) use of natural gas and high efficiency design and operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Dew Point Heater
Process Type: 19.600 (Misc. Boilers, Furnaces, Heaters)
Primary Fuel: natural gas
Throughput: 140.00 MMCF/YR
Process Notes: Dew Point Heater (16.0 MMBTU/HR)

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102

Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.8000 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Ultra Low NOx burners
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6000 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5000 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12 mo rolling av.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5000 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf on a 12 mo rolling av.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: SIP
Control Method: (P) Pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Compliance is based on compliance with fuel sulfur content

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Pipeline quality natural gas with a maximum sulfur content of 0.4 gr/100 scf
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Compliance is based on compliance with fuel sulfur content

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 8208.0000 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) use of natural gas and high efficiency design and operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency Diesel GEN

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Ultra Low Sulfur Diesel

Throughput: 500.00 H/YR

Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 4.8000 G/HP H

Emission Limit 2: 9.6000 T/YR 12 MO ROLLING AV

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: NOX + NMHC

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 G/HP H

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 G/HP H

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 G/HP H

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6000 G/HP H
Emission Limit 2: 5.2000 T/YR 12 MO ROLLING TOTAL
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP , NSPS
Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1:
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 981.0000 T/YR 12 MO ROLLING TOTAL

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) use of S15 ULSD and high efficiency design and operation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: GE Combustion Turbine - Tuning & Water Washing

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: natural gas

Throughput: 34000.00 MMCF/YR

Process Notes: Alternative operating scenario: during periods of tuning and water washing

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Other

Other Test Method: 40 CFR 60, Methods 7E or 20

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 638.0000 LB/TURBINE/CAL DAY 24 HR AV

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) dry, low NOx burners and SCR

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This limit applies during tuning (limited to 18 hours/event) and water washing (limited to 60 minutes/event). Determined by CEMS.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 194.0000 LB/TURBINE/DAY 24 HR AV

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst and good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This limit applies during tuning (limited to 18 hours/event) and water washing (limited to 60 minutes/event). Determined by CEMS.

Process/Pollutant Information

PROCESS NAME: GE Combustion Turbine - Startup and Shutdown

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: natural gas

Throughput: 34000.00 MMCF/YR

Process Notes: Startup and Shutdown

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Other

Other Test Method: 40 CFR 60, Methods 7E or 20

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 273.0000 LB/TURBINE/EVENT COLD START 60 MIN OR LESS
Emission Limit 2: 163.0000 LB/TURBINE/EVENT WARM START 50 MIN OR LESS
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (A) Dry, low NOx burners and SCR
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: 105 lb/turbine/event hot start - 30 minutes or less 18 lb/turbine/event shut down - 30 minutes or less These limits apply during startup and shutdown, which are defined in the permit. Determined by CEMS.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 840.0000 LB/TURBINE/EVENT COLD START 60 MIN OR LESS
Emission Limit 2: 188.0000 LB/TURBINE/EVENT WARM START 50 MIN OR LESS
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Oxidation catalyst and good combustion practice
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: 180 lb/turbine/event hot start - 30 minutes or less 100 lb/turbine/event shutdown - 30 minutes or less These limits apply during startup and shutdown. CEMS required.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC

Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 60.0000 LB/TURBINE/EVENT COLD START 60 MIN OR LESS
Emission Limit 2: LB/TURBINE/EVENT WARM START 50 MIN OR LESS
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Oxidation catalyst and good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: 14 lb/turbine/event hot start - 30 minutes or less 65 lb/turbine/event shutdown - 30 minutes or less Alternative emission limits apply during startup and shutdown. Compliance is based on compliance with CO limits, determined by CEMS.

Process/Pollutant Information

PROCESS NAME: Siemens Combustion Turbine - Tuning & Water Washing
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: Natural Gas
Throughput: 35000.00 MMCF/YR
Process Notes: Alternative operating scenario: during periods of tuning and water washing

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Other
Other Test Method: 40 CFR 60, Methods 7E or 20
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 564.0000 LB/TURBINE CAL DAY 24 HR AV
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (A) dry, low NOx burners and SCR
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This limit applies during tuning (limited to 18 hours/event) and water washing (limited to 60 minutes/event). Determined by CEMS.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 309.0000 LB/TURBINE/DAY 24 HR AV
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Oxidation catalyst and good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This limit applies during tuning (limited to 18 hours/event) and water washing (limited to 60 minutes/event). Determined by CEMS.

Process/Pollutant Information

PROCESS NAME: Siemens Combustion Turbine - Startup & Shutdown
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: Natural Gas
Throughput: 35000.00 MMCF/YR

Process Notes: Startup and Shutdown

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Other

Other Test Method: 40 CFR 60, Methods 7E or 20

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 95.0000 LB/TURBINE/EVENT COLD START 55 MIN OR LESS

Emission Limit 2: 117.0000 LB/TURBINE/EVENT WARM START 55 MIN OR LESS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) dry, low NOx burners and SCR

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 8 lb/turbine/event hot start - 50 minutes or less 51 lb/turbine/event shut down - 38 minutes or less These limits apply during startup and shutdown, which are defined in the permit. Compliance based on CEMS.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 434.0000 LB/TURBINE/EVENT COLD START 55 MIN OR LESS

Emission Limit 2: 397.0000 LB/TURBINE/EVENT WARM START 55 MIN OR LESS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst and good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 36 lb/turbine/event hot start - 50 minutes or less 184 lb/turbine/event shutdown - 38 minutes or less These limits apply during startup and shutdown. CEMS required.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 37.0000 LB/TURBINE/EVENT COLD START 55 MIN OR LESS

Emission Limit 2: 34.0000 LB/TURBINE/EVENT WARM START 55 MIN OR LESS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst and good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: 34 lb/turbine/event hot start - 50 minutes or less 56 lb/turbine/event shutdown - 38 minutes or less Alternative emission limits apply during startup and shutdown. Compliance is based on compliance with CO limits, determined by CEMS

Process/Pollutant Information

PROCESS NAME: Emergency Fire Water Pump

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Ultra Low Sulfur Diesel

Throughput: 500.00 HR/YR

Process Notes: 315 BHP

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 15.0000 G/HP/HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/HP HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/HP HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6000 G/HP HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Non-methane hydrocarbons are accounted for in the NOx+NMHC limit of 3.0 g/hp per hr.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1040.0000 T/YR 12 MO ROLLING TOTAL

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.0000 G/HP-HR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP , NSPS

Control Method: (P) Good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Circuit Breakers - 6

Process Type: 99.999 (Other Miscellaneous Sources)

Primary Fuel:

Throughput: 0.50 %

Process Notes: Quantity 6 Annual leakage rate

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Enclosed-pressure design with low-pressure detection system (with alarm).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Equipment Leaks from Natural Gas Components
Process Type: 99.999 (Other Miscellaneous Sources)
Primary Fuel:
Throughput: 0
Process Notes: Work practice requirements

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Best management practices to prevent, detect and repair leaks of natural gas from the piping components.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Compliance is based on compliance with work practice requirement.

Process/Pollutant Information

PROCESS NAME: Cooling Tower

Process Type: 99.009 (Industrial Process Cooling Towers)

Primary Fuel:

Throughput: 0

Process Notes: No Controls Feasible. P2=Total dissolved solids content of the cooling water effluent shall not exceed 6250 mg/L. Compliance is based on monthly water quality testing.

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Drift rate of 0.00050 percent of the circulating water flow with mist eliminators and a total dissolved solids content of the cooling water, not to exceed 6250 mg.liter.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Particulate matter emissions from the cooling tower will be controlled to a drift rate of 0.00050 percent of the circulating water flow with mist eliminators and a total dissolved solids content of the cooling water effluent shall not exceed 6250 mg/l

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	OH-0377 (final)	**Date Determination**	
		Last Updated:	06/19/2019
Corporate/Company Name:	HARRISON POWER	**Permit Number:**	P0122266
Facility Name:	HARRISON POWER	**Permit Date:**	04/19/2018 (actual)
Facility Contact:	JIM PALUMBO (570)793-6012 JPALUMBO@EMBERCLEAR.COM	**FRS Number:**	Not Found
Facility Description:	1000 MW natural gas-fired combined cycle combustion turbine plant	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	HARRISON		
Facility State:	OH		
Facility ZIP Code:	43907		

Permit Issued By: OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name)
MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov

Permit Notes: Initial installation permit for a 1000 MW combined cycle electric generating facility in Harrison County that includes two (2) combustion turbines with a heat recovery stream generator (HRSG) and duct burners, auxiliary boiler, emergency diesel generator engine, and emergency fire pump engine. The permit includes the option to install either General Electric turbines (with 80 MMBTU aux boiler B002) or Mitsubishi turbines (with 44.55 MMBTU aux boiler B001). The facility-wide pollutants table below is for the GE turbines. The Mitsubishi emissions are as follows: PM10/2.5 155.2, SO2 59.2, NOx 249.9, CO 219.7, VOC 169.5

Facility-wide Emissions:	Pollutant Name:	Facility-wide Emissions Increase:
	Carbon Monoxide	227.6000 (Tons/Year)
	Nitrogen Oxides (NOx)	280.2000 (Tons/Year)
	Particulate Matter (PM)	160.7000 (Tons/Year)
	Sulfur Oxides (SOx)	57.4000 (Tons/Year)
	Volatile Organic Compounds (VOC)	98.4000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B001)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 44.55 MMBTU/H

Process Notes: 44.55 MMBtu/hr natural gas-fired boiler equipped with low-NOx burners. The permit includes the option to install either General Electric turbines (with 80 MMBTU aux boiler B002) or Mitsubishi turbines (with 44.55 MMBTU aux boiler B001).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 1.6700 LB/H
Emission Limit 2: 0.9000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0375 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 1.5600 LB/H
Emission Limit 2: 0.8400 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0350 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Good combustion practices and low NOx burner
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25A
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.1600 LB/H
Emission Limit 2: 0.0860 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0036 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: EPA/OAR Mthd 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3300 LB/H
Emission Limit 2: 0.1800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0075 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3300 LB/H
Emission Limit 2: 0.1800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0075 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Other
Other Test Method: Methods 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3300 LB/H
Emission Limit 2: 0.1800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0075 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Other
Other Test Method: 40 CFR 60.4415
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0220 LB/H
Emission Limit 2: 0.0120 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 5.0000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: EPA/OAR Mthd 8

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.0040 LB/H

Emission Limit 2: 0.0020 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 8.0000 X10-5 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 2817.6000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B002)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 80.00 MMBTU/H

Process Notes: 80 MMBtu/hr natural gas-fired boiler equipped with low-NOx burners. The permit includes the option to install either General Electric turbines (with 80 MMBTU aux boiler B002) or Mitsubishi turbines (with 44.55 MMBTU aux boiler B001).

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.1900 LB/H

Emission Limit 2: 1.1800 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0270 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Good combustion practices and low NOx burner
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.4800 LB/H
Emission Limit 2: 1.3400 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0310 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25A
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2480 LB/H
Emission Limit 2: 0.1340 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0031 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: EPA/OAR Mthd 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4800 LB/H
Emission Limit 2: 0.2600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0060 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 μ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4800 LB/H
Emission Limit 2: 0.2600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0060 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Other
Other Test Method: Methods 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4800 LB/H
Emission Limit 2: 0.2600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0060 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Other
Other Test Method: 40 CFR 60.4415
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.1200 LB/H

Emission Limit 2: 0.0650 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0015 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0180 LB/H
Emission Limit 2: 0.0100 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.2000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 5009.1000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency Diesel Generator (P003)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel

Throughput: 1860.00 HP

Process Notes: 1,387 KW (1,860 HP) emergency diesel-fired generator

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 19.6800 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 0.9800 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: All emissions limits are for Non-methane hydrocarbon (NMHC) + NOX emissions. 0.98 t/yr per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 6.4 g/kW-hr (4.8 g/hp-hr).

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 19.6800 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 0.9800 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: All emissions limits are for Non-methane hydrocarbon (NMHC) + NOX emissions. 0.98 t/yr per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 6.4 g/kW-hr (4.8 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6200 LB/H
Emission Limit 2: 0.0310 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6200 LB/H
Emission Limit 2: 0.0310 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6200 LB/H
Emission Limit 2: 0.0310 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0015 LB/MMBTU
Emission Limit 2: 0.0230 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.001 t/yr per rolling, 12-month period.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 7.3000 X10-4 LB/MMBTU
Emission Limit 2: 0.0030 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00017 t/yr per rolling, 12-month period.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 109.2000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Efficient design and proper maintenance and operation
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent during the acceleration mode; 15 percent during the lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

Process/Pollutant Information

PROCESS NAME: Emergency Fire Pump (P004)
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 320.00 HP
Process Notes: 238.6 KW (320 HP) emergency diesel-fired firewater pump

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 2.1200 LB/H NMHC+NOX. SEE NOTES.
Emission Limit 2: 0.1100 T/YR NMHC+NOX. SEE NOTES.
Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: All emissions limits are for Non-methane hydrocarbon (NMHC) + NOX emissions. 0.11 t/yr per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 2.1200 LB/H NMHC+NOX. SEE NOTES.
Emission Limit 2: 0.1100 T/YR NMHC+NOX. SEE NOTES.
Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: All emissions limits are for Non-methane hydrocarbon (NMHC) + NOX emissions. 0.11 t/yr per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 1.8300 LB/H

Emission Limit 2: 0.0920 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1100 LB/H

Emission Limit 2: 0.0055 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1100 LB/H

Emission Limit 2: 0.0055 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1100 LB/H

Emission Limit 2: 0.0055 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0150 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0015 LB/MMBTU

Emission Limit 2: 0.0040 LB/H

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0002 t/yr per rolling, 12-month period.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 7.3000 X10-4 LB/MMBTU

Emission Limit 2: 6.0000 X10-4 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.00003 t/yr per rolling, 12-month period.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 18.6700 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Efficient design and proper maintenance and operation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: General Electric (GE) Combustion Turbines (P005 & P006)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3459.60 MMBTU/H

Process Notes: Two identical GE Combustion Turbines 1 and 2; GE model 7HA.02 natural gas-fired combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,459.6 MMBtu/hr (HHV) at 100% load and -2° F exhausting through a heat recovery steam generator (HRSG) with supplemental natural gas-fired duct burners nominally rated at 570.45 MMBtu/hr (HHV) controlled with catalytic oxidation and selective catalytic reduction (SCR) used to generate additional electricity. The permit includes the option to install either General Electric turbines (with 80 MMBTU aux boiler B002) or Mitsubishi turbines (with 44.55 MMBTU aux boiler B001). Limits and throughputs are for single turbine except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 29.5000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 139.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (A) dry low NOx burners and an SCR system

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period. 29.5 lb/h with duct burner, except startup and shutdown. 25.1 lb/h without duct burner, except startup and shutdown. 139 tons per rolling 12 month period for all operating modes, including startup and shutdown. 12.99 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 17.9000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 112.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Good combustion practices and oxidation catalyst
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period. 17.9 lb/h with duct burner, except startup and shutdown. 15.3 lb/h without duct burner, except startup and shutdown. 112.8 tons per rolling 12 month period for all operating modes, including startup and shutdown. 35.85 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25A
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 4.3600 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 49.1000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Good combustion practices and oxidation catalyst
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period and 10.3 lb/h with duct burner, except startup and shutdown. 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period and 4.36 lb/h without duct burner, except startup and shutdown. 49.1 tons per rolling 12 month period for all operating modes, including startup and shutdown. 4.81 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0052 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 18.4000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.00522 lb/mmbtu and 18.4 lb/h with duct burner. 0.00735 lb/mmbtu and 12.0 lb/h without duct burner. 80.2 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0052 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 18.4000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00522 lb/mmbtu and 18.4 lb/h with duct burner. 0.00735 lb/mmbtu and 12.0 lb/h without duct burner. 80.2 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0052 LB/MMBTU WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 18.4000 LB/H WITH DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00522 lb/mmbtu and 18.4 lb/h with duct burner. 0.00735 lb/mmbtu and 12.0 lb/h without duct burner. 80.2 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Other
Other Test Method: 40 CFR 60.4415
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0017 LB/MMBTU SEE NOTES.
Emission Limit 2: 5.7500 LB/H WITH DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00174 lb/mmbtu and 4.13 lb/h with duct burner, except startup and shutdown. 0.00174 lb/mmbtu and 5.75 lb/h without duct burner. 28.65 tons per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0010 LB/MMBTU WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 3.5200 LB/H WITH DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00103 lb/mmbtu and 4.13 lb/h with duct burner, except startup and shutdown. 0.00102 lb/mmbtu and 3.52 lb/h without duct burner. 17.55 tons per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1000.0000 LB/MW-H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 1012.4000 LB/MW-H WITHOUT DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) High efficient combustion technology

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: With duct burners: 450 kg per MW-h of gross energy output (1,000 lbs/MW-h) on a 12-operating-month rolling average basis, or, if a petition is granted, CO2 emissions shall not exceed 470 kg per MW-h of net energy output (1,030 lbs/MW-h) on a 12-operating-month rolling average basis. [40 CFR 60.5520(a)-(c) and Table 2 of 40 CFR Part 60, Subpart TTTT] Without duct burners: 1,012.4 lbs/MW-hr gross energy output at full load ISO conditions when firing natural gas. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads. 2,499,820 t/yr of CO2e emissions per rolling, 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Mitsubishi Hitachi Power Systems (MHPS) Combustion Turbines (P007 & P008)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3231.00 MMBTU/H

Process Notes: Two identical MHPS Combustion Turbines 1 and 2; Mitsubishi Model M501JAC natural gas-fired combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,231 MMBtu/hr (HHV) at 100% load and 51° F exhausting through a heat recovery steam generator (HRSG) with supplemental natural gas-fired duct burners nominally rated at 306 MMBtu/hr (HHV) controlled with catalytic oxidation and selective catalytic reduction (SCR) used to generate electricity. The permit includes the option to install either General Electric turbines (with 80 MMBTU aux boiler B002) or Mitsubishi turbines (with 44.55 MMBTU aux boiler B001). Limits and throughputs are for single turbine except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 28.0000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 124.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (A) dry low NOx burners and an SCR system

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period. 28 lb/h with duct burner, except startup and shutdown. 26.7 lb/h without duct burner, except startup and shutdown. 124.0 tons per rolling 12 month period for all operating modes, including startup and shutdown. 3.22 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 17.1000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 109.1000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen on a 24-hr block averaging period. 17.1 lb/h with duct burner, except startup and shutdown. 16.3 lb/h without duct burner, except startup and shutdown. 109.1 tons per rolling 12 month period for all operating modes, including startup and shutdown. 35.40 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 9.8000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 84.7000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 9.8 lb/h with duct burner, except startup and shutdown. 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 4.7 lb/h without duct burner, except startup and shutdown. 84.7 tons per rolling 12 month period for all operating modes, including startup and shutdown. 42.50 tons per rolling 12 month period for startup and shutdown periods.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 17.7000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.005 lb/mmbtu and 17.7 lb/h with duct burner. 0.00444 lb/mmbtu and 14.10 lb/h without duct burner. 77.5 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 17.7000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.005 lb/mmbtu and 17.7 lb/h with duct burner. 0.00444 lb/mmbtu and 14.10 lb/h without duct burner. 77.5 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 17.7000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.005 lb/mmbtu and 17.7 lb/h with duct burner. 0.00444 lb/mmbtu and 14.10 lb/h without duct burner. 77.5 tons per rolling 12 month period for all operating modes.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0021 LB/MMBTU

Emission Limit 2: 7.2200 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.0021 lb/mmbtu and 7.22 lb/h with duct burner. 0.0021 lb/mmbtu and 6.92 lb/h without duct burner. 29.57 tons per rolling 12 month period.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0022 LB/MMBTU
Emission Limit 2: 7.7400 LB/H WITH DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.0022 lb/mmbtu and 7.74 lb/h with duct burner. 0.0022 lb/mmbtu and 7.41 lb/h without duct burner. 31.69 tons per rolling 12 month period.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1000.0000 LB/MW-H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 976.0000 LB/MW-H WITHOUT DUCT BURNERS. SEE NOTES.
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) High efficient combustion technology

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: With duct burners: 450 kg per MW-h of gross energy output (1,000 lbs/MW-h) on a 12-operating-month rolling average basis, or, if a petition is granted, CO2 emissions shall not exceed 470 kg per MW-h of net energy output (1,030 lbs/MW-h) on a 12-operating-month rolling average basis. [40 CFR 60.5520(a)-(c) and Table 2 of 40 CFR Part 60, Subpart TTTT] Without duct burners: 976.0 lbs/MW-hr gross energy output at full load ISO conditions when firing natural gas. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads. 2,342,643 tons of CO2e emissions per rolling, 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID: OH-0376 (final)

Date Determination

Last Updated: 06/19/2019

Corporate/Company Name: IRONUNITS LLC - TOLEDO HBI

Permit Number: P0123395

Facility Name: IRONUNITS LLC - TOLEDO HBI

Permit Date: 02/09/2018 (actual)

Facility Contact:	JASON AAGENES (218)744-6037 JASON.AAGENES@CLEVELANDCLIFFS.COM	**FRS Number:**	110070244823
Facility Description:	Hot briquetted iron production	**SIC Code:**	3312
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	331111
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	LUCAS		
Facility State:	OH		
Facility ZIP Code:	43605		
Permit Issued By:	OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name) MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov		
Permit Notes:	Installation of a hot briquetted iron manufacturing facility.		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	577.0100 (Tons/Year)
Nitrogen Oxides (NOx)	478.3700 (Tons/Year)
Particulate Matter (PM)	97.7600 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Reformer (B001)

Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel: Natural gas

Throughput: 1687.00 MMBTU/H

Process Notes: 1,687 mmBtu/hr natural gas and process gas fired reformer with low-NOx burners. Process gas is top gas that has been cleaned by the top gas scrubber.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Other

Other Test Method: temporary CEM to determine 30-day rolling avg lb/mmBtu

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 52.3500 LB/H

Emission Limit 2: 0.0310 LB/MMBTU AS 30-DAY AVERAGE.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 229.29 t/yr per rolling, 12-month period

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Other
Other Test Method: temporary CEM to determine 30-day rolling avg lb/mmBtu
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 99.7500 LB/H
Emission Limit 2: 0.0600 LB/MMBTU AS 30-DAY AVERAGE.
Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Low NOx burners (LNB) and good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 436.89 t/yr per rolling, 12-month period

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 18.7100 LB/H
Emission Limit 2: 0.0120 LB/MMBTU

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and use of gaseous fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 81.96 t/yr per rolling, 12-month period

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 18.7100 LB/H

Emission Limit 2: 0.0120 LB/MMBTU

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices and use of gaseous fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 81.96 t/yr per rolling, 12-month period

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices and use of gaseous fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1554047.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Use of gaseous fuels, energy integrated design, and good combustion practices through proper operation and maintenance of the unit
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Paved roads (F001)

Process Type: 99.140 (Paved Roads)

Primary Fuel:

Throughput: 0

Process Notes: Trucks for materials transport on paved roads.

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.6300 T/YR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) water flushing and sweeping

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 T/YR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) water flushing and sweeping

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Oxide storage piles (F002)
Process Type: 81.900 (Other Ferrous Metal Industry Processes)
Primary Fuel:
Throughput: 0
Process Notes: Storage piles including load-in, load-out, wind erosion, and front-end loader traffic on unpaved areas

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.5200 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Use of water or chemical suppressant and minimize drop height
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.3300 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Use of water or chemical suppressant and minimize drop height
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Direct Reduced Iron reactor shaft furnace (P001)
Process Type: 81.900 (Other Ferrous Metal Industry Processes)
Primary Fuel:
Throughput: 320.00 T/H
Process Notes: Direct Reduced Iron (DRI) reactor, this emissions unit includes emissions from the charge hopper exhaust controlled by a venturi scrubber and bottom seal gas exhaust controlled by a venturi scrubber

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.8200 LB/H FROM CHARGE HOPPER EXHAUST STACK
Emission Limit 2: 43.0000 LB/H FROM BOTTOM SEAL GAS EXHAUST STACK
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Optimum equipment design
Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 12.36 t/yr per rolling, 12-month period from Charge Hopper Exhaust Stack 188.34 t/yr per rolling, 12-month period from Bottom Seal Gas Exhaust Stack

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.0200 LB/H FROM CHARGE HOPPER EXHAUST STACK

Emission Limit 2: 0.4300 LB/H FROM BOTTOM SEAL GAS EXHAUST STACK

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Optimum equipment design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 8.85 t/yr per rolling, 12-month period from Charge Hopper Exhaust Stack 1.88 t/yr per rolling, 12-month period from Bottom Seal Gas Exhaust Stack

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 GR/DSCF FROM CHARGE HOPPER EXHAUST STACK

Emission Limit 2: 0.0075 GR/DSCF FROM BOTTOM SEAL GAS EXHAUST STACK

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) venturi scrubber and good combustion practices at the reformer
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.10 lb/h and 0.44 t/yr per rolling, 12-month period from Charge Hopper Exhaust Stack 2.61 lb/r and 11.44 t/yr per rolling, 12-month period from Bottom Seal Gas Exhaust Stack

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 GR/DSCF FROM CHARGE HOPPER EXHAUST STACK
Emission Limit 2: 0.0075 GR/DSCF FROM BOTTOM SEAL GAS EXHAUST STACK
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) venturi scrubber and good combustion practices at the reformer
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.10 lb/h and 0.44 t/yr per rolling, 12-month period from Charge Hopper Exhaust Stack 2.61 lb/r and 11.44 t/yr per rolling, 12-month period from Bottom Seal Gas Exhaust Stack

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 5891.0000 T/YR CHARGE HOPPER EXHAUST STACK. SEE NOTES
Emission Limit 2: 170.0000 T/YR BOTTOM SEAL GAS EXHAUST STACK. SEE NOTES
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Optimum equipment design and energy integration
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 5891 t/yr per rolling, 12-month period from Charge Hopper Exhaust Stack 170 t/yr per rolling, 12-month period from Bottom Seal Gas Exhaust Stack

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: EPA/OAR Mthd 9
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (B) venturi scrubber and good combustion practices at the reformer
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Iron briquetting machine (P002)
Process Type: 81.900 (Other Ferrous Metal Industry Processes)
Primary Fuel:
Throughput: 320.00 T/H

Process Notes: Iron briquetting machine vented to venturi scrubber

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.0700 LB/H
Emission Limit 2: 9.0700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Optimum equipment design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 3.9400 LB/H
Emission Limit 2: 17.2500 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Optimum equipment design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0076 GR/DSCF

Emission Limit 2: 4.1000 LB/H

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) venturi scrubber and good combustion practices at the reformer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 17.96 t/yr per rolling, 12-month period

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0076 GR/DSCF

Emission Limit 2: 4.1000 LB/H

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) venturi scrubber and good combustion practices at the reformer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 17.96 t/yr per rolling, 12-month period

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 54072.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Optimum equipment design and energy integration
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: EPA/OAR Mthd 9
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (B) venturi scrubber and good combustion practices at the reformer
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Iron briquette cooling system (P003)

Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel:

Throughput: 320.00 T/H

Process Notes: Iron briquette cooling system vented to venturi scrubber

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Method 5

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0076 GR/DSCF

Emission Limit 2: 3.8000 LB/H

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) venturi scrubber

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 16.64 t/yr per rolling, 12-month period

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (A) venturi scrubber

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Process water degasser (P004)

Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel:

Throughput: 0

Process Notes: Process water degasser

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 24.2600 LB/H

Emission Limit 2: 106.2400 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Optimum equipment design and operation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1105.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Optimum equipment design and operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Wet Cooling Tower (P005)
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel:
Throughput: 24766.00 GAL/M
Process Notes: 4 cell wet cooling tower equipped with a high efficiency drift eliminator

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 LB/H
Emission Limit 2: 0.0900 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 1,100 parts per million by weight (ppmw).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0100 LB/H

Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 1,100 parts per million by weight (ppmw).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 1,100 parts per million by weight (ppmw).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Emergency diesel-fueled fire pump (P006)

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 250.00 HP

Process Notes: 250 hp emergency diesel-fueled fire pump

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 1.4000 LB/H

Emission Limit 2: 0.3600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 1.6000 LB/H
Emission Limit 2: 0.4100 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 3.0000 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NOx Standard limit is 4.0 g/kW-hr (3.0 g/hp-hr). NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/H
Emission Limit 2: 0.0200 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1800 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.24 g/kW-hr (0.18 g/hp-hr). NSPS: 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/H
Emission Limit 2: 0.0200 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1800 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.24 g/kW-hr (0.18 g/hp-hr). NSPS: 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 163.6000 LB/MMBTU
Emission Limit 2: 79.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Equipment design and maintenance requirements
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Emergency diesel-fired generator (P007)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 2682.00 HP
Process Notes: 2,000 kW (2,682 hp) emergency diesel-fired generator

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:

Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 15.4000 LB/H
Emission Limit 2: 3.8600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.6000 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 28.2000 LB/H

Emission Limit 2: 7.0500 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 4.8000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NOx Standard limit is 6.4 g/kW-hr (4.8 g/hp-hr). NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 6.4 g/kW-hr (4.8 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.0100 LB/H

Emission Limit 2: 0.2500 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1700 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.23 g/kW-hr (0.17 g/hp-hr). NSPS: 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.0100 LB/H
Emission Limit 2: 0.2500 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1700 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Comply with NSPS 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.23 g/kW-hr (0.17 g/hp-hr). NSPS: 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 163.6000 LB/MMBTU
Emission Limit 2: 683.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Equipment design and maintenance requirements
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Pressure Relief Vent Flare (P008)
Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel:

Throughput: 0

Process Notes: Pressure Relief Vent Flare

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 552.6400 LB/H

Emission Limit 2: 27.4900 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Minimize flaring from startup, shutdown, and upset events by operating in accordance with flare minimization plan. Meet the 40 CFR 60.18 requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 121.2100 LB/H

Emission Limit 2: 6.0300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Minimize flaring from startup, shutdown, and upset events by operating in accordance with flare minimization plan. Meet the 40 CFR 60.18 requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 13.2800 LB/H
Emission Limit 2: 0.6600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and equipment design elements for both natural gas pilot and pressure relief events
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 13.2800 LB/H
Emission Limit 2: 0.6600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices and equipment design elements for both natural gas pilot and pressure relief events

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 10386.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Minimize flaring from startup, shutdown, and upset events by operating in accordance with flare minimization plan.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices and equipment design elements for both natural gas pilot and pressure relief events

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Oxide Handling, Bins, Screens (P901)

Process Type: 81.900 (Other Ferrous Metal Industry Processes)

Primary Fuel:

Throughput: 0

Process Notes: Iron oxide material handling consisting of: TR-1 (conveyor to Transfer Tower I with baghouse), TR-2 (conveyor to stack machine conveyor fully enclosed), TR-5 (conveyor from reclaim machine to conveyor fully enclosed), TR-6 and TR-7 (conveyor from reclaim to Transfer Tower II and III with baghouses), TR-10 (oxide day bins to conveyors with baghouses), SR-1 (oxide screen with baghouse), TR-13 (oxide transfer to bucket elevator with baghouse), and TR-14 (coating storage and mixing and fines transfer tower with baghouse)

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.9200 LB/H

Emission Limit 2: 5.5000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) baghouses

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: For TR-1, TR-6, TR-7, TR-10, SR-1, TR-13, TR-14: Full enclosures vented to baghouses designed to meet an outlet grain loading of not more than 0.0025 grains per dry standard cubic foot (gr/dscf) of exhaust each at all times the emissions unit is in operation. All PM is assumed to be emitted as PM2.5. For TR-2, TR-5: full enclosure

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.3200 LB/H

Emission Limit 2: 5.1900 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) baghouses

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: For TR-1, TR-6, TR-7, TR-10, SR-1, TR-13, TR-14: Full enclosures vented to baghouses designed to meet an outlet grain loading of not more than 0.0025 grains per dry standard cubic foot (gr/dscf) of exhaust each at all times the emissions unit is in operation. All PM is assumed to be emitted as PM2.5. For TR-2, TR-5: full enclosure

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 3 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (A) baghouses
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Visible emissions of fugitive dust from this emissions unit shall not exceed twenty percent opacity as a three-minute average.

Process/Pollutant Information

PROCESS NAME: HBI Conveyor Transfers with Scrubbers and loadout building (P902)
Process Type: 81.900 (Other Ferrous Metal Industry Processes)
Primary Fuel:
Throughput: 0
Process Notes: Hot briquetted iron (HBI)/Direct reduced iron (DRI) material handling consisting of: TR-17 & TR-18 (three HBI conveyor transfer towers with two venturi scrubbers), TR-19 (HBI Conveyor to Stacker Machine), TR-22 (HBI drop from hopper to conveyor), TR-23 (HBI conveyor from transfer tower to HBI loadout building with venturi scrubber), TR-24 (Conveyor transfer to loading bin with venturi scrubber), TR-25 (HBI truck loadout vented to venturi scrubber), TR-26 (HBI railcar loading inside shed with two sides and roof, strip curtains at the entrance and exit of the loading shed, use of a telescoping loading chute, and use of water or chemical spray during loading), and TR-27 (HBI truck loading fugitive emissions)

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4700 LB/H
Emission Limit 2: 1.5100 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Use of venturi scrubbers, use of partial enclosures and use of water/chemical suppressants
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: For TR-17, TR-18, TR-23, TR-24, TR-25: scrubber designed to meet outlet grain loading of not more than 0.0025 grains per dry standard cubic foot (gr/dscf). For TR-19, TR-22: full enclosure For TR-26: railcar loading shed with two sides and roof, strip curtains at the entrance and exit of the loading shed, use of a telescoping loading chute, and use of water or chemical suppressants during loading. For TR-27: enclosure with doors that will remain closed during loading

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4300 LB/H

Emission Limit 2: 1.4100 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Use of venturi scrubbers, use of partial enclosures and use of water/chemical suppressants

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: For TR-17, TR-18, TR-23, TR-24, TR-25: scrubber designed to meet outlet grain loading of not more than 0.0025 grains per dry standard cubic foot (gr/dscf). For TR-19, TR-22: full enclosure For TR-26: railcar loading shed with two sides and roof, strip curtains at the entrance and exit of the loading shed, use of a telescoping loading chute, and use of water or chemical suppressants during loading. For TR-27: enclosure with doors that will remain closed during loading

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis:	N/A
Other Applicable Requirements:	SIP
Control Method:	(B) Use of venturi scrubbers, use of partial enclosures and use of water/chemical suppressants
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	Visible particulate emissions from any stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule. Visible emissions of fugitive dust from this emissions unit shall not exceed twenty percent opacity as a three-minute average.

Facility Information

RBLC ID:	OH-0375 (final)	**Date Determination Last Updated:**	06/19/2019
Corporate/Company Name:	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	**Permit Number:**	P0122829
Facility Name:	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	**Permit Date:**	11/07/2017 (actual)
Facility Contact:	KENNETH NICHOLSON (212)478-4128 RSTEWART@FORTRESS.COM	**FRS Number:**	110070396014
Facility Description:	Combined cycle combustion turbine power generation facility	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	MONROE		
Facility State:	OH		
Facility ZIP Code:	43931		
Permit Issued By:	OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name) MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov		
Permit Notes:	Initial installation permit for a 485 MW combined cycle electric generating facility in Monroe County. The emissions units include a combustion turbine with a heat recovery stream generator (HRSG) and duct burners, auxiliary boiler, emergency diesel generator engine, emergency fire pump engine, and an eight-cell mechanical draft low-mist wet cooling tower. The Project will use either a GE Model 7HA.02 (P004), Mitsubishi Model 501JAC (P005) or Siemens Model SCC6-8000H (P006) combustion turbine (CT) with duct firing in the HRSG to increase steam generation in the steam turbine. Only one turbine will be built but each of these turbines are included in this RBLC entry.		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	146.6600 (Tons/Year)
Nitrogen Oxides (NOx)	136.5200 (Tons/Year)

Particulate Matter (PM)	94.2100 (Tons/Year)
Sulfur Oxides (SOx)	23.2300 (Tons/Year)
Volatile Organic Compounds (VOC)	80.5100 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B001)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 26.80 MMBTU/H

Process Notes: 26.8 MMBtu/hr natural gas-fired boiler with a low-NOx burner and flue gas recirculation

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.2900 LB/H

Emission Limit 2: 0.7400 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0110 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Flue gas recirculation and low NOX burner

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.9900 LB/H

Emission Limit 2: 2.4800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0370 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.1300 LB/H
Emission Limit 2: 0.3400 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0050 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: EPA/OAR Mthd 5 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2700 LB/H

Emission Limit 2: 0.6700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0100 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201 and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2700 LB/H
Emission Limit 2: 0.6700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0100 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 5 and 202
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2700 LB/H
Emission Limit 2: 0.6700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0100 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0030 LB/H
Emission Limit 2: 0.0070 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 1.1000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):

Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 7845.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Natural gas as the sole fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency Diesel Generator Engine (P001)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 2206.00 HP

Process Notes: 1,645 kW (2,206 HP) emergency diesel-fired generator to provide on-site emergency power capabilities independent of the utility grid.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 24.7100 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 1.2400 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Non-methane hydrocarbon plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 6.40 g/kW-h (4.8 g/hp-h), 24.71 lb/h and 1.24 t/yr per rolling, 12-month period.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 24.7100 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 1.2400 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 4.8000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Non-methane hydrocarbon plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 6.40 g/kW-h (4.8 g/hp-h), 24.71 lb/h and 1.24 t/yr per rolling, 12-month period.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 12.6400 LB/H
Emission Limit 2: 0.6300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.6000 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7300 LB/H
Emission Limit 2: 0.0370 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7300 LB/H
Emission Limit 2: 0.0370 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7300 LB/H
Emission Limit 2: 0.0370 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0016 LB/H
Emission Limit 2: 7.9000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00011 lb/MMBtu

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 116.8000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Efficient design
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent during the acceleration mode; 15 percent during the lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

Process/Pollutant Information

PROCESS NAME: Emergency Diesel Fire Pump Engine (P002)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 700.00 HP
Process Notes: 700 hp emergency diesel-fired fire pump to provide on-site firefighting capabilities independent of the utility grid

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 4.9700 LB/H NMHC+NOX. SEE NOTES.
Emission Limit 2: 0.2500 T/YR NMHC+NOX. SEE NOTES.
Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Nonmethane hydrocarbons plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 4.0 g/kW-hour, 4.97 pounds per hour and 0.25 ton per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 4.9700 LB/H NMHC+NOX. SEE NOTES.
Emission Limit 2: 0.2500 T/YR NMHC+NOX. SEE NOTES.
Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Nonmethane hydrocarbons plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 4.0 g/kW-hour, 4.97 pounds per hour and 0.25 ton per rolling, 12-month period. NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 4.0100 LB/H
Emission Limit 2: 0.2000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.6000 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2300 LB/H
Emission Limit 2: 0.0120 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2300 LB/H
Emission Limit 2: 0.0120 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2300 LB/H
Emission Limit 2: 0.0120 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 5.4000 X10-4 LB/H

Emission Limit 2: 2.7000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 1.1000 X10-4 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 40.1000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Efficient design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (P) Good combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Wet Mechanical Draft Cooling Tower (P003)

Process Type: 99.009 (Industrial Process Cooling Towers)

Primary Fuel:

Throughput: 120000.00 GAL/M

Process Notes: 8-cell wet cooling tower with a maximum circulating water flow rate of 120,000 gallons per minute (gpm), equipped with a high efficiency drift eliminator.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 6.5800 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) High efficiency drift eliminator designed to achieve a 0.0005% drift rate and total dissolved solids (TDS) content not to exceed 5,000 mg/l.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 4.2400 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) High efficiency drift eliminator designed to achieve a 0.0005% drift rate and total dissolved solids (TDS) content not to exceed 5,000 mg/l.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.5800 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) High efficiency drift eliminator designed to achieve a 0.0005% drift rate and total dissolved solids (TDS) content not to exceed 5,000 mg/l.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: General Electric Combustion Turbine (P004)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3544.00 MMBTU/H

Process Notes: General Electric model 7HA.02 natural gas or natural gas+ethane fired combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,544 MMBtu/hr at 100% load and -5° F exhausting through a heat recovery steam generator (HRSG) controlled with catalytic oxidation and selective catalytic reduction (SCR) used to generate additional electricity. The Project will use either a GE Model 7HA.02 (P004), Mitsubishi Model 501JAC (P005) or Siemens Model SCC6-8000H (P006) combustion turbine (CT) with duct firing in the HRSG to increase steam generation in the steam turbine. Only one turbine will be built but each of these turbines are included in this RBLC entry.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 26.1000 LB/H EXCEPT STARTUP AND SHUTDOWN. SEE NOTES

Emission Limit 2: 125.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS
Control Method: (A) dry low NOx burners and an SCR system
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 2.0 ppmvd at 15% oxygen (O2) and 26.1 pounds per hour, excluding periods of startup and shutdown. 125.8 tons of NOx per rolling, 12-month period, including start-up and shutdown emissions. 164.5 lb/h during cold startup, 109.7 lb/h during hot startup, 87.4 lb/h during warm startup, and 27.9 lb/h during shutdown.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 15.9000 LB/H EXCEPT STARTUP AND SHUTDOWN. SEE NOTES
Emission Limit 2: 123.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Oxidation catalyst and good combustion practices as recommended by the manufacturer.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 2.0 ppmvd at 15% oxygen (O2) and 15.9 pounds per hour, excluding periods of startup and shutdown. 123.8 tons of NOx per rolling, 12-month period, including start-up and shutdown emissions. 877.0 lb/h during cold startup, 145.3 lb/h during hot startup, 130.6 lb/h during warm startup, and 137.7 lb/h during shutdown.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25A
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 4.5400 LB/H EXCEPT STARTUP AND SHUTDOWN. SEE NOTES
Emission Limit 2: 26.4000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 1.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Oxidation catalyst and good combustion practices as recommended by the manufacturer.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 1.0 ppmvd at 15% oxygen (O2) and 4.54 pounds per hour, excluding periods of startup and shutdown. 26.4 tons of NOx per rolling, 12-month period, including start-up and shutdown emissions. 78.1 lb/h during cold startup, 11.5 lb/h during hot startup, 12.0 lb/h during warm startup, and 29.6 lb/h during shutdown.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0036 LB/MMBTU

Emission Limit 2: 12.1000 LB/H

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 53.0 t/yr per rolling, 12-month period, including start-up and shutdown emissions.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0036 LB/MMBTU

Emission Limit 2: 12.1000 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) natural gas or a natural gas and ethane mixture only
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 53.0 t/yr per rolling, 12-month period, including start-up and shutdown emissions.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0036 LB/MMBTU
Emission Limit 2: 12.1000 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) natural gas or a natural gas and ethane mixture only
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 53.0 t/yr per rolling, 12-month period, including start-up and shutdown emissions.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.0011 LB/MMBTU
Emission Limit 2: 3.7800 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) natural gas or a natural gas and ethane mixture only
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 16.56 t/yr per rolling, 12-month period, including start-up and shutdown emissions.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 775.0000 LB/MW-H SEE NOTES.
Emission Limit 2: 1915689.0000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) high efficiency combustion practices as recommended by the manufacturer
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 775 lb/MW-hr gross energy output at full load ISO conditions when firing natural gas. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads.

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE

Test Method: EPA/OAR Mthd 9
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) natural gas or a natural gas and ethane mixture only
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Mitsubishi Combustion Turbine (P005)
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: Natural gas
Throughput: 3320.00 MMBTU/H
Process Notes: Mitsubishi Model 501JAC natural gas or natural gas+ethane fired combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,320 MMBtu/hr at 100% load and -5° F exhausting through a heat recovery steam generator (HRSG) with supplemental natural gas-fired duct burners nominally rated at 108 MMBtu/hr controlled with catalytic oxidation and selective catalytic reduction (SCR) used to generate electricity. The Project will use either a GE Model 7HA.02 (P004), Mitsubishi Model 501JAC (P005) or Siemens Model SCC6-8000H (P006) combustion turbine (CT) with duct firing in the HRSG to increase steam generation in the steam turbine. Only one turbine will be built but each of these turbines are included in this RBLC entry.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 25.1000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 119.4000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (A) dry low NOx burners and an SCR system

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 25.10 lb/h with duct burner (except startup and shutdown). 26.4 lb/h without duct burner (except startup and shutdown). 119.4 t/yr per rolling 12 month period for all operating modes, including startup. 68.1 lb/h during cold startup, 55.4 lb/h during warm startup, 34.6 lb/h during hot startup, and 37.9 lb/h during shutdown.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 15.3000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 121.2000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 15.30 lb/h with duct burner (except startup and shutdown). 16.1 lb/h without duct burner (except startup and shutdown). 121.2 t/yr per rolling 12 month period for all operating modes, including startup. 538.6 lb/h during cold startup, 449.4 lb/h during warm startup, 140.7 lb/h during hot startup, and 162.7 lb/h during shutdown.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 8.8000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 79.3000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 8.80 lb/h with duct burner (except startup and shutdown). 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 4.60 lb/h without duct burner (except startup and shutdown). 79.3 t/yr per rolling 12 month period for all operating modes, including startup. 224.7 lb/h during cold startup, 225.1 lb/h during warm startup, 185.9 lb/h during hot startup, and 97.0 lb/h during shutdown.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 12.6000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.004 lb/mmbtu and 12.60 lb/h with duct burner (except startup and shutdown). 0.0037 lb/mmbtu and 12.3 lb/h without duct burner (except startup and shutdown). 55.2 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 12.6000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.004 lb/mmbtu and 12.60 lb/h with duct burner (except startup and shutdown). 0.0037 lb/mmbtu and 12.3 lb/h without duct burner (except startup and shutdown). 55.2 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 12.6000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.004 lb/mmbtu and 12.60 lb/h with duct burner (except startup and shutdown). 0.0037 lb/mmbtu and 12.3 lb/h without duct burner (except startup and shutdown). 55.2 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.0009 LB/MMBTU

Emission Limit 2: 2.8500 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0009 lb/mmbtu. 2.85 lb/h with duct burner (except startup and shutdown). 2.99 lb/h without duct burner (except startup and shutdown). 13.1 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1000.0000 LB/MW-H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 775.0000 LB/MW-H WITHOUT DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) high efficiency combustion practices as recommended by the manufacturer
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: With duct burners: 450 kg per MW-h of gross energy output (1,000 lbs/MW-h) on a 12-operating-month rolling average basis, or, if a petition is granted, CO2 emissions shall not exceed 470 kg per MW-h of net energy output (1,030 lbs/MW-h) on a 12-operating- month rolling average basis. [40 CFR 60.5520(a)-(c) and Table 2 of 40 CFR Part 60, Subpart TTTT] Without duct burners: 775 lb/MW-hr gross energy output at full load ISO conditions when firing natural gas. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads. 1,811,235 t/yr per rolling, 12-month period.

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: EPA/OAR Mthd 9
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) natural gas or a natural gas and ethane mixture only
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Siemens Combustion Turbine (P006)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3602.00 MMBTU/H

Process Notes: Siemens Model SCC6-8000H natural gas or natural gas+ethane fired combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,602 MMBtu/hr at 100% load and -5° F exhausting through a heat recovery steam generator (HRSG) with supplemental natural gas-fired duct burners nominally rated at 667 MMBtu/hr controlled with catalytic oxidation and selective catalytic reduction (SCR) used to generate electricity. The Project will use either a GE Model 7HA.02 (P004), Mitsubishi Model 501JAC (P005) or Siemens Model SCC6-8000H (P006) combustion turbine (CT) with duct firing in the HRSG to increase steam generation in the steam turbine. Only one turbine will be built but each of these turbines are included in this RBLC entry.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 27.1000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 128.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (A) dry low NOx burners and an SCR system

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 27.10 lb/h with duct burner (except startup and shutdown). 22.4 lb/h without duct burner (except startup and shutdown). 128.8 t/yr per rolling 12 month period for all operating modes, including startup. 72.7 lb/h during cold startup, 87.1 lb/h during warm startup, 77.7 lb/h during hot startup, and 44.8 lb/h during shutdown.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 16.5000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 142.6000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 16.5 lb/h with duct burner (except startup and shutdown). 13.6 lb/h without duct burner (except startup and shutdown). 142.6 t/yr per rolling 12 month period for all operating modes, including startup. 447.9 lb/h during cold startup, 439.9 lb/h during warm startup, 370.3 lb/h during hot startup, and 118.5 lb/h during shutdown.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 9.5000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 50.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 9.5 lb/h with duct burner (except startup and shutdown). 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen and 3.9 lb/h without duct burner (except startup and shutdown). 50.8 t/yr per rolling 12 month period for all operating modes, including startup. 40.4 lb/h during cold startup, 40.2 lb/h during warm startup, 40.7 lb/h during hot startup, and 39.4 lb/h during shutdown.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0057 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 19.8000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0057 lb/mmbtu and 19.8 lb/h with duct burner (except startup and shutdown). 0.006 lb/mmbtu and 13 lb/h without duct burner (except startup and shutdown). 86.7 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0057 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 19.8000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0057 lb/mmbtu and 19.8 lb/h with duct burner (except startup and shutdown). 0.006 lb/mmbtu and 13 lb/h without duct burner (except startup and shutdown). 86.7 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0057 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 19.8000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0057 lb/mmbtu and 19.8 lb/h with duct burner (except startup and shutdown). 0.006 lb/mmbtu and 13 lb/h without duct burner (except startup and shutdown). 86.7 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: EPA/OAR Mthd 8

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 5.2000 X10-4 LB/MMBTU WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 1.8100 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.00052 lb/mmbtu and 1.81 lb/h with duct burner (except startup and shutdown). 0.00055 lb/mmbtu and 1.5 lb/h without duct burner (except startup and shutdown). 7.9 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 1000.0000 LB/MW-H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 775.0000 LB/MW-H WITHOUT DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) high efficiency combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 450 kg per MW-h of gross energy output (1,000 lbs/MW-h) on a 12-operating-month rolling average basis, or, if a petition is granted, CO2 emissions shall not exceed 470 kg per MW-h of net energy output (1,030 lbs/MW-h) on a 12-operating- month rolling average basis. [40 CFR 60.5520(a)-(c) and Table 2 of 40 CFR Part 60, Subpart TTTT] 775 lb/MW-hr gross energy output at full load ISO conditions when firing natural gas. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads. 1,962,130 tons of CO2e emissions per rolling, 12-month period.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) natural gas or a natural gas and ethane mixture only

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	OH-0374 (final)	**Date Determination Last Updated:**	06/19/2019
Corporate/Company Name:	GUERNSEY POWER STATION LLC	**Permit Number:**	P0122594
Facility Name:	GUERNSEY POWER STATION LLC	**Permit Date:**	10/23/2017 (actual)
Facility Contact:	MARY KING (317)447-4513 MARY@APEXPOWERGROUP.COM	**FRS Number:**	110070379546
Facility Description:	1,650 MW combined cycle combustion turbine electrical generating facility	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	GUERNSEY		
Facility State:	OH		
Facility ZIP Code:	43723		
Permit Issued By:	OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name) MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov		
Permit Notes:	Installation PTI for a new 1,650 MW combined cycle natural-gas fired turbine plant and associated auxiliary boiler, firewater pumps, emergency generators and fuel gas heaters		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	296.6000 (Tons/Year)
Nitrogen Oxides (NOx)	446.4000 (Tons/Year)
Particulate Matter (PM)	294.7000 (Tons/Year)
Sulfur Oxides (SOx)	86.8000 (Tons/Year)

Volatile Organic Compounds (VOC) 150.4000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B001)

Process Type: 12.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 185.00 MMBTU/H

Process Notes: 185.0 MMBtu/hr natural gas-fired boiler with low-NOx burners and flue gas recirculation (FGR)

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Other

Other Test Method: CEM for NOx

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.7000 LB/H

Emission Limit 2: 9.2500 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0200 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) low-NOx burners and flue gas recirculation

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 10.1800 LB/H

Emission Limit 2: 25.4500 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0550 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Gas combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.9300 LB/H

Emission Limit 2: 2.3300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0050 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Gas combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.3000 LB/H

Emission Limit 2: 3.2500 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0070 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Gas combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.3000 LB/H

Emission Limit 2: 3.2500 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0070 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Gas combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.3000 LB/H

Emission Limit 2: 3.2500 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0070 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Gas combustion control
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Other
Other Test Method: 40 CFR 60.4415
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.2800 LB/H
Emission Limit 2: 0.7000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0015 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline natural gas fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.0430 LB/H
Emission Limit 2: 0.1100 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.3000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline natural gas fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 54167.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Natural gas, low-emitting fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified

Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Gas combustion control
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Combined Cycle Combustion Turbines (3, identical) (P001 to P003)
Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: Natural gas
Throughput: 3516.00 MMBTU/H
Process Notes: Three identical Combustion Turbines; GE 7HA.02 natural gas-fired lean pre-mix combined cycle combustion turbine generator equipped with dry low-NOx (DLN) burners nominally rated at 3,516 MMBtu/hr HHV at 100% load and -18° F exhausting through a heat recovery steam generator (HRSG) with supplemental natural gas-fired duct burners nominally rated at 997 MMBtu/hr HHV controlled with catalytic oxidation and selective catalytic reduction (SCR) and cooled with an air-cooled condenser (ACC) used to generate electricity. Throughputs and limits are for a single turbine except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 33.8500 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 26.3700 LB/H WITHOUT DUCT BURNERS. SEE NOTES.
Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) dry low NOx burners and SCR

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 2.0 ppm by volume, dry basis (ppmvd) at 15% oxygen turbine with duct burners and turbine only, both excluding startup and shutdown. 26.37 lb/h without duct burners. 33.85 lb/h with duct burners. Both excluding startup and shutdown 266.7 lb/cold startup, 140.7 lb/hot startup, 88.4 lb/warm startup and 32.7 lb/shutdown. 422.19 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 20.7600 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 16.1700 LB/H WITHOUT DUCT BURNERS. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 2.0 ppm by volume, dry basis (ppmvd) at 15% oxygen turbine with duct burners and turbine only, both excluding startup and shutdown. 16.17 lb/h without duct burners. 20.76 lb/h with duct burners. Both excluding startup and shutdown 791.6 lb/cold startup, 161.5 lb/hot startup, 133.0 lb/warm startup and 139.6 lb/shutdown. 300.61 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 11.7300 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 4.9200 LB/H WITHOUT DUCT BURNERS. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and good combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 2.0 ppm by volume, dry basis (ppmvd) at 15% oxygen turbine with duct burners. 1.0 ppm by volume, dry basis (ppmvd) at 15% oxygen without duct burners. Both excluding startup and shutdown. 4.92 lb/h without duct burners. 11.73 lb/h with duct burners. Both excluding startup and shutdown. 55.9 lb/cold startup, 13.7 lb/hot startup, 16.5 lb/warm startup and 34.9 lb/shutdown. 146.91 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0073 LB/MMBTU SEE NOTES.

Emission Limit 2: 23.3000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 0.0073 lb/mmbtu with duct burners and without duct burners. Both excluding startup and shutdown. 12.30 lb/h without duct burners. 23.30 lb/h with duct burners. Both excluding startup and shutdown. 290.39 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0073 LB/MMBTU SEE NOTES.

Emission Limit 2: 23.3000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 0.0073 lb/mmbtu with duct burners and without duct burners. Both excluding startup and shutdown. 12.30 lb/h without duct burners. 23.30 lb/h with duct burners. Both excluding startup and shutdown. 290.39 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0073 LB/MMBTU SEE NOTES.

Emission Limit 2: 23.3000 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 0.0073 lb/mmbtu with duct burners and without duct burners. Both excluding startup and shutdown. 12.30 lb/h without duct burners. 23.30 lb/h with duct burners. Both excluding startup and shutdown. 290.39 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0015 LB/MMBTU SEE NOTES.

Emission Limit 2: 6.7700 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) pipeline quality natural gas with a maximum sulfur content not exceed 0.50 grain/100 scf

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 0.0015 lb/mmbtu with duct burners and without duct burners. Both excluding startup and shutdown. 5.27 lb/h without duct burners. 6.77 lb/h with duct burners. Both excluding startup and shutdown. 88.96 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: EPA/OAR Mthd 8

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 0.0011 LB/MMBTU SEE NOTES.

Emission Limit 2: 4.9600 LB/H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) pipeline quality natural gas with a maximum sulfur content not exceed 0.50 grain/100 scf

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 0.0011 lb/mmbtu with duct burners and without duct burners. Both excluding startup and shutdown. 3.87 lb/h without duct burners. 4.96 lb/h with duct burners. Both excluding startup and shutdown. 65.17 t/yr per rolling 12 month period total for all 3 turbines.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 846.0000 LB/MW-H WITHOUT DUCT BURNER. SEE NOTES.

Emission Limit 2: 1000.0000 LB/MW-H WITH DUCT BURNERS. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) high efficiency combustion practices as recommended by the manufacturer

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Limits are for single turbine except as noted. 846 lb/MW-hr gross energy output at full load ISO conditions without duct burner. 450 kg per MW-h of gross energy output (1,000 lbs/MW-h) on a 12-operating-month rolling average basis with duct burner. 7,056,798 t/yr per rolling 12 month period for all 3 turbines.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: EPA/OAR Mthd 9

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) pipeline quality natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency Generators (2 identical, P004 and P005)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 2206.00 HP
Process Notes: Two identical Emergency Generators; 1,645 kW (2,206 HP) emergency diesel-fired generator to provide on-site emergency power capabilities independent of the utility grid. Throughputs and limits are for a single generator except as noted.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 23.2100 LB/H NMHC+NOX. SEE NOTES.
Emission Limit 2: 1.1600 T/YR NMHC+NOX. SEE NOTES.
Standard Emission: 4.7700 G/BHP-H NMHC+NOX. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturer's operating manual.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Non-methane hydrocarbon plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 6.40 g/kW-hour (4.77 G/BHP-H), 23.21 pounds per hour and 1.16 tons per rolling, 12-month period.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 23.2100 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 1.1600 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 4.7700 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Non-methane hydrocarbon plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 6.40 g/kW-hour (4.77 G/BHP-H), 23.21 pounds per hour and 1.16 tons per rolling, 12-month period.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 12.6900 LB/H

Emission Limit 2: 0.6300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7300 LB/H
Emission Limit 2: 0.0370 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturer's operating manual.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7300 LB/H
Emission Limit 2: 0.0370 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.7300 LB/H

Emission Limit 2: 0.0370 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0015 LB/MMBTU

Emission Limit 2: 0.0220 LB/H

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS
Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.0011 t/yr per rolling 12 month period.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 3.4000 X10-3 LB/H
Emission Limit 2: 1.7000 X10-4 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00023 lb/MMBtu

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 120.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) good operating practices (proper maintenance and operation)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturer's operating manual.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS: Exhaust opacity from CI RICE must not exceed: 20 percent during the acceleration mode; 15 percent during the lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

Process/Pollutant Information

PROCESS NAME: Emergency Fire Pump (P006)
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 410.00 HP
Process Notes: 410 HP emergency diesel-fired fire pump to provide on-site firefighting capabilities independent of the utility grid

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.7000 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 0.1400 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Nonmethane hydrocarbons plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 4.0 g/kW-hour (3.0 g/bhp-h), 2.70 pounds per hour and 0.14 ton per rolling, 12-month period.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 2.7000 LB/H NMHC+NOX. SEE NOTES.

Emission Limit 2: 0.1400 T/YR NMHC+NOX. SEE NOTES.

Standard Emission: 3.0000 G/BHP-H NMHC+NOX. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Nonmethane hydrocarbons plus nitrogen oxides (NMHC+NOx) emissions shall not exceed 4.0 g/kW-hour (3.0 g/bhp-h), 2.70 pounds per hour and 0.14 ton per rolling, 12-month period.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.3600 LB/H

Emission Limit 2: 0.1200 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: CO Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1300 LB/H

Emission Limit 2: 0.0065 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1500 G/BHP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1300 LB/H
Emission Limit 2: 0.0065 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: RACT
Other Applicable Requirements: NSPS
Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1300 LB/H
Emission Limit 2: 0.0065 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/BHP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: PM Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0015 LB/MMBTU
Emission Limit 2: 0.0053 LB/H
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.00027 T/YR per rolling, 12-month period

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0015 LB/MMBTU
Emission Limit 2: 8.1000 X10-4 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 4.1x10-5 T/YR per rolling, 12-month period

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 29.0000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good operating practices (proper maintenance and operation)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: N/A

Other Applicable Requirements: SIP

Control Method: (P) Certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII. Good combustion practices per the manufacturer's operating manual.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Fuel Gas Heaters (2 identical, P007 and P008)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 15.00 MMBTU/H

Process Notes: Two identical Fuel Gas Heaters; 15.0 MMBtu/hr natural gas-fired fuel gas heater with low-NOx burners. The natural gas heaters will heat a water bath.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.3000 LB/H

Emission Limit 2: 1.3100 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0200 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Low-NOx gas burner

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.8300 LB/H

Emission Limit 2: 3.6400 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0550 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0750 LB/H

Emission Limit 2: 0.3300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0050 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: EPA/OAR Mthd 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0750 LB/H

Emission Limit 2: 0.0330 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0050 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0750 LB/H

Emission Limit 2: 0.3300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0050 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 5 and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0750 LB/H

Emission Limit 2: 0.0330 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0050 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0230 LB/H

Emission Limit 2: 0.1000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0015 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Pipeline natural gas fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0035 LB/H
Emission Limit 2: 0.0150 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.3000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Pipeline natural gas fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 7695.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Natural gas, low-emitting fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Combustion control
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Facility Information

RBLC ID:	OH-0372 (final)	**Date Determination Last Updated:**	06/19/2019
Corporate/Company Name:	OREGON ENERGY CENTER	**Permit Number:**	P0121049
Facility Name:	OREGON ENERGY CENTER	**Permit Date:**	09/27/2017 (actual)
Facility Contact:	WILLIAM SIDEREWICZ (617)501-7094 BILLS@PERPOWER.COM	**FRS Number:**	Not Found
Facility Description:	Combined cycle gas turbine (CCGT) facility	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	LUCAS		

Facility State: OH

Facility ZIP Code: 43616

Permit Issued By: OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name)
MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov

Permit Notes: Installation of natural gas-fired combined cycle combustion turbine power plant.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	275.1000 (Tons/Year)
Nitrogen Oxides (NOx)	241.3000 (Tons/Year)
Particulate Matter (PM)	135.0000 (Tons/Year)
Sulfur Oxides (SOx)	43.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	101.4000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B001)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 37.80 MMBTU/H

Process Notes: 37.8 mmBtu/hr natural gas fired auxiliary boiler with low- NOX burners and flue gas recirculation

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.0800 LB/H

Emission Limit 2: 2.0800 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0550 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion controls

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.7600 LB/H
Emission Limit 2: 0.7600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0200 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low NOX burners and flue gas recirculation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3000 LB/H
Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0080 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.3000 LB/H

Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0080 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0600 LB/H

Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 1.5000 X10-3 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0040 LB/H
Emission Limit 2: 0.0040 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 1.1500 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2300 LB/H
Emission Limit 2: 0.2300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0060 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 4502.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) use of natural gas, good combustion controls
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Emergency generator (P003)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 1529.00 HP
Process Notes: 1,000 kWe (1,140 kW mechanical) emergency diesel-fired generator

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 8.8000 LB/H
Emission Limit 2: 2.2000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.6000 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 16.1000 LB/H
Emission Limit 2: 4.0200 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 4.8000 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 6.4 g/kW-hr (4.8 g/hp-hr). NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 6.4 g/kW-hr.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 2.0000 LB/H
Emission Limit 2: 0.5000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.5900 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.79 g/kW-hr (0.59 g/hp-hr). NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 6.4 g/kW-hr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5000 LB/H
Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5000 LB/H
Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0160 LB/H
Emission Limit 2: 4.0000 X10-3 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 3.3000 X10-4 LB/H
Emission Limit 2: 8.3000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 9.6000 X10-5 G/HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 1.32x10-4 g/kW-hr (9.6x10-5 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 445.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) state of the art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule. NSPS: Exhaust opacity shall not exceed: 20 percent during acceleration mode; 15 percent during lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

Process/Pollutant Information

PROCESS NAME: Emergency fire pump engine (P004)

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 300.00 HP

Process Notes: 300 hp emergency diesel-fired fire pump

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 1.7300 LB/H

Emission Limit 2: 0.4300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/B-HP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) state of the art combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 1.9700 LB/H

Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 3.0000 G/B-HP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) State-of-the-art combustion design

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 4.0 g/kW-hr (3.0 g/hp-hr). NSPS is Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/H
Emission Limit 2: 0.0200 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/H
Emission Limit 2: 0.0200 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.1500 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS

Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 0.20 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2400 LB/H
Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.3700 G/B-HP-H SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 0.5 g/kW-hr (0.37 g/hp-hr). NSPS: Non-methane hydrocarbon (NMHC) + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 3.2000 X10-3 LB/H
Emission Limit 2: 1.0000 X10-3 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 6.5000 X10-5 LB/H
Emission Limit 2: 1.6000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 9.6000 X10-5 G/HP-HR SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit is 1.3x10-4 g/kW-hr (9.6x10-5 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 87.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Wet Cooling Tower (P005)
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel:
Throughput: 155083.00 GAL/M
Process Notes: 10-cell wet cooling tower equipped with a high efficiency drift eliminator

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.9300 LB/H
Emission Limit 2: 4.0700 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3600 LB/H
Emission Limit 2: 1.5800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Combined Cycle Combustion Turbines (two, identical) (P001 and P002)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3055.00 MMBTU/H

Process Notes: Combined cycle combustion turbine (3,055 mmBtu/hr heat input turbine at ISO conditions and 221.3 mmBtu/hr heat input duct burner) with dry low NOX combustors, selective catalytic reduction (SCR), and catalytic oxidation. All heat values are on a HHV basis. Throughputs and limits are for single turbine except as noted.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 15.5000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 135.1900 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and good combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 15.5 lb/h with duct burner (except startup and shutdown). 14.6 lb/h without duct burner (except startup and shutdown). 135.19 t/yr per rolling 12 month period for all operating modes, including startup. 526 lb/h during cold startup, 436 lb/h during hot startup, 496 lb/h during warm startup, and 150 lb/h during shutdown.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 401921.0000 LB/H SEE NOTES.
Emission Limit 2: 1689461.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) high efficiency combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 833 lb/MW-hr (pounds per megawatt-hour) gross energy output (at full load ISO conditions without duct firing) and 401,921 lb/hr (maximum under any condition with duct firing). 1,689,461 t/yr per rolling 12 month period for all operating modes, including startup and shutdown.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 25.3000 LB/H WITH DUCT BURNER. SEE NOTES.
Emission Limit 2: 118.0200 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.
Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Dry low NOX combustors and selective catalytic reduction (SCR)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 25.3 lb/h with duct burner (except startup and shutdown). 23.8 lb/h without duct burner (except startup and shutdown). 118.02 t/yr per rolling 12 month period for all operating modes, including startup. 162 lb/h during cold startup, 78.7 lb/h during hot startup, 113 lb/h during warm startup, and 57.3 lb/h during shutdown.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 8.8000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 50.2800 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) oxidation catalyst and good combustion control

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen, with duct burner. 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen, without duct burner. 8.8 lb/h with duct burner. 4.1 lb/h without duct burner. Each limit except startup and shutdown. 50.28 t/yr per rolling 12 month period for all operating modes, including startup. 64.4 lb/h during cold startup, 60.1 lb/h during hot startup, 59.6 lb/h during warm startup, and 62.8 lb/h during shutdown.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 5.1000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 21.4600 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 1.5x10-3 lb/mmbtu. 5.1 lb/h with duct burner (except startup and shutdown). 4.8 lb/h without duct burner (except startup and shutdown). 21.46 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: EPA/OAR Mthd 8

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 3.7000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 15.7700 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 1.1x10-3 lb/mmbtu. 3.7 lb/h with duct burner (except startup and shutdown). 3.5 lb/h without duct burner (except startup and shutdown). 15.77 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 15.4000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 65.2600 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 4.6x10-3 lb/mmbtu with duct burners. 6.0x10-3 lb/mmbtu without duct burners. 15.4 lb/h with duct burner (except startup and shutdown). 14.0 lb/h without duct burner (except startup and shutdown). 65.26 t/yr per rolling 12 month period for all operating modes, including startup.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 15.4000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 65.2600 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion practices and pipeline quality natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 4.6x10-3 lb/mmbtu with duct burners. 6.0x10-3 lb/mmbtu without duct burners. 15.4 lb/h with duct burner (except startup and shutdown). 14.0 lb/h without duct burner (except startup and shutdown). 65.26 t/yr per rolling 12 month period for all operating modes, including startup.

Facility Information

RBLC ID: WV-0027 (final)

Date Determination

Last Updated: 05/01/2018

Corporate/Company Name: KNAUF INSULATION INC.

Permit Number: R14-0015M

Facility Name: INWOOD

Permit Date: 09/15/2017 (actual)

Facility Contact: CHRISTOPHER MARHIN 317-421-8561 CHRIS.MAHIN@KNAUFINSULATION.COM

FRS Number: 110064365306

Facility Description: Insulation Manufacturing Facility

SIC Code: 3296

Permit Type:	C: Modify process at existing facility	**NAICS Code:**	327993
Permit URL:	http://dep.wv.gov/daq/Documents/September 2017 Permits and Evals/003-00027_PERM_R14-0015M.pdf		
EPA Region:	3	**COUNTRY:**	USA
Facility County:	BERKELEY		
Facility State:	WV		
Facility ZIP Code:	25428		
Permit Issued By:	WEST VIRGINIA DEPT. OF ENVRIONMENTAL PROTECTION; DIV. OF AIR QUALITY (Agency Name) MR. JOE KESSLER, PE(Agency Contact) (304)926-0499X1219 Joseph.r.kessler@wv.gov		
Other Agency Contact Info:	Permit Writer: Mr. Ed Andrews 304-926-0499 x1214		
Permit Notes:			

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	WV	Dolly Sods	100km - 50km
CLASS1	VA	James River Face	100km - 50km
CLASS1	WV	Otter Creek	100km - 50km
CLASS1	VA	Shenandoah NP	< 100 km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	-62.9200 (Tons/Year)
Nitrogen Oxides (NOx)	42.2100 (Tons/Year)
Particulate Matter (PM)	41.1000 (Tons/Year)
Sulfur Oxides (SOx)	24.3900 (Tons/Year)
Volatile Organic Compounds (VOC)	-3.4700 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	Raw Material Storage Bins
Process Type:	90.015 (Glass Fiber Manufacturing (except 90.033))
Primary Fuel:	n/a
Throughput:	184.00 tons/day
Process Notes:	Day Bins to feed the glass melting for Line 2

POLLUTANT NAME:	Particulate matter, total (TPM)
CAS Number:	PM
Test Method:	Unspecified
Pollutant Group(s):	(Particulate Matter (PM))

Emission Limit 1: 0.0160 TONS PER YEAR 12-MONTH ROLLING TOTAL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (A) Fabric Filter Silo Vent
Est. % Efficiency: 99.900
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Compliance is based on total raw material throughput of 184 tons per day and 64,240 tons per rolling 12-month total.

Process/Pollutant Information

PROCESS NAME: Fiber Forming Section
Process Type: 90.015 (Glass Fiber Manufacturing (except 90.033))
Primary Fuel: natural gas
Throughput: 6.67 tons per hour
Process Notes: Using n/g burners to control temperature and binder is sprayed to entrain the glass fibers.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.5700 LB/TON GLASS PULLED 3 HOUR AVG.
Emission Limit 2:
Standard Emission: 11.0000 LB/TON GLASS PULLED
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (A) Wet Scrubbers
Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Monitoring the pressure drop across and flow rate of scrubbing liquid for each scrubber and the LOI of the finish product once every 8 hours

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.2100 LB/TON GLASS PULLED 3 HOUR AVG.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: N/A
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permittee is required to minimize peak flame temperatures.

Process/Pollutant Information

PROCESS NAME: Glass Melting Furnace ES22
Process Type: 90.015 (Glass Fiber Manufacturing (except 90.033))
Primary Fuel: natural gas
Throughput: 6.67 tons per hour
Process Notes: Gas-oxy burners increase furnace efficiency by improving thermal efficiency and heat transfer.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2500 LB/TON GLASS PULLED 3 HOUR AVG.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (A) fabric filter using PTEE bags
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Permittee is required to use a bag leak detector to monitor the control device.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 3.0000 LB/TON GLASS PULLED 3 HOUR AVG.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: N/A
Control Method: (P) Oxygen Enrichment and combustion controls (CC)
Est. % Efficiency: 70.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Permittee is required to establish and monitor ration of oxygen to combustion air.

Process/Pollutant Information

PROCESS NAME: Curing Oven and Cooling Table Section

Process Type: 90.015 (Glass Fiber Manufacturing (except 90.033))

Primary Fuel: natural gas

Throughput: 6.67 tons per hour

Process Notes: natural gas fired oven, then the blanket is cooled using ambient air

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.8800 LB/TON GLASS (FPM) 6 HOUR AVERAGE

Emission Limit 2: 1.1000 LB/TON GLASS (TPM10) 6 HOUR AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) The exhaust from the cooling table is routed to a wet scrubber.

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Source is required to establish operating parameters for the control device.

Process/Pollutant Information

PROCESS NAME: Cooling Tower 3 Cells

Process Type: 90.015 (Glass Fiber Manufacturing (except 90.033))

Primary Fuel: n/a

Throughput: 0

Process Notes: Three mechanical draft cooling towers.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0400 LB/HR 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: N/A
Control Method: (P) 0.005% drift eliminator
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Restrict the make-up water to be provided from the local water company or have a TDS of less than 750 ppm by weight.

Process/Pollutant Information

PROCESS NAME: Emergency Generator - ESDG14
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: ULSD
Throughput: 900.00 bhp
Process Notes: Used to supply power to the facility in the event of power loss

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/HP-HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) ULSD
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Engine limited to 100 hours non-emergency use per year.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 4.7700 G/HP-HR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , MACT
Control Method: (P) Engine Design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Engine is limited to 100 hours of non-emergency use per year.

Process/Pollutant Information

PROCESS NAME: Curing Oven ES25A
Process Type: 90.015 (Glass Fiber Manufacturing (except 90.033))
Primary Fuel: natural gas
Throughput: 6.67 tons per hour
Process Notes: The blanket of glass fibers is heated up to 350F to cure the binder in forming the fiberglass insulation

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.5900 LB/TON GLASS PULLED 3 HOUR AVG.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: N/A
Control Method: (P) LNB w/ FGR
Est. % Efficiency: 70.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Facility Information

RBLC ID:	OH-0370 (final)	**Date Determination**	
		Last Updated:	06/19/2019
Corporate/Company Name:	TRUMBULL ENERGY CENTER	**Permit Number:**	P0122331
Facility Name:	TRUMBULL ENERGY CENTER	**Permit Date:**	09/07/2017 (actual)
Facility Contact:	WILLIAM SIDEREWICZ (617)501-7094 BILLS@PERPOWER.COM	**FRS Number:**	Not Found
Facility Description:	940 MW combined cycle gas turbine (CCGT) facility	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	TRUMBULL		
Facility State:	OH		
Facility ZIP Code:	44481		

Permit Issued By: OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name)
MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov

Permit Notes: Permit-to-install for the construction of the Trumbull Energy Center, a nominal 940 megawatt (MW) combined cycle gas turbine (CCGT) facility to be located in the Village of Lordstown, Ohio.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	275.1000 (Tons/Year)
Nitrogen Oxides (NOx)	240.5000 (Tons/Year)
Particulate Matter (PM)	135.2000 (Tons/Year)

Sulfur Oxides (SOx)	42.1000 (Tons/Year)
Volatile Organic Compounds (VOC)	101.4000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Auxiliary Boiler (B001)

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 37.80 MMBTU/H

Process Notes: Auxiliary Boiler 37.8 MMBtu/hr

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.0800 LB/H

Emission Limit 2: 2.0800 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0550 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion controls

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.7600 LB/H

Emission Limit 2: 0.7600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0200 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Flue gas recirculation (FGR), low NOx burner

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.3000 LB/H

Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0080 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.3000 LB/H

Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0080 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2300 LB/H
Emission Limit 2: 0.2300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0060 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion controls
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Other
Other Test Method: 40 CFR 60.4415
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0600 LB/H
Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 1.5000 X10-3 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: EPA/OAR Mthd 8
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 0.0087 LB/H
Emission Limit 2: 0.0087 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 2.3000 X10-4 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 4456.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion controls/natural gas combustion
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Low sulfur fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Combined Cycle Combustion Turbines (two, identical) (P001 and P002)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 3025.00 MMBTU/H

Process Notes: Two identical combined cycle combustion turbine (3,025 mmBtu/hr heat input turbine at ISO conditions and 237 mmBtu/hr heat input duct burner) with dry low NOx combustors, selective catalytic reduction (SCR), and catalytic oxidizer. Throughputs and limits are for single turbine except as noted.

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion controls and low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 833.0000 LB/MW-H SEE NOTES.

Emission Limit 2: 1683213.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) High efficient combustion technology

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 833 lb/MW-hr gross energy output (at full load ISO conditions without duct firing). 884 lbs/ MW-hr gross energy output (maximum under any full load condition with duct firing). 401,084 lb/hr (maximum under any condition with duct firing). 1,683,213 T/YR per rolling 12 month period all operating modes, including startup and shutdown periods.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 15.5000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 135.2000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion controls and oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen. 15.5 lb/h with duct burner. 14.6 lb/h without duct burner. Each limit except startup and shutdown). 135.2 t/yr per rolling 12 month period for all operating modes, including startup and shutdown. 526.0 lb/h during cold startup, 436.0 lb/h during hot startup, 496.0 lb/h during warm startup, and 159.0 lb/h during shutdown.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 25.3000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 117.6000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) dry low NOx combustors (DLN) and selective catalytic reduction (SCR)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen, 25.3 lb/h with duct burner, 23.8 lb/h without duct burner (each limit except startup and shutdown). 117.6 t/yr per rolling 12 month period for all operating modes, including startup and shutdown. 162.0 lb/h during cold startup, 78.7 lb/h during hot startup, 113.0 lb/h during warm startup, and 72.7 lb/h during shutdown.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 8.8000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 50.3000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 2.0000 PPM BY VOLUME, DRY AT 15% O2. SEE NOTES.

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion controls and oxidation catalyst

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 2.0 ppm by volume dry basis (ppmvd) at 15% oxygen with duct burner, 1.0 ppm by volume dry basis (ppmvd) at 15% oxygen without duct burner, 8.8 lb/h with duct burner, 4.1 lb/h without duct burner (each limit except startup and shutdown). 50.3 t/yr per rolling 12 month period for all operating modes, including startup and shutdown. 64.4 lb/h during cold startup, 60.1 lb/h during hot startup, 59.6 lb/h during warm startup, and 67.9 lb/h during shutdown.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Other

Other Test Method: 40 CFR 60.4415

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 5.1000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 21.0000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 1.5x10-3 lb/mmbtu, 5.1 lb/h with duct burner, 4.8 lb/h without duct burner (each limit except startup and shutdown). 21.0 t/yr per rolling 12 month period for all operating modes, including startup and shutdown.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: EPA/OAR Mthd 8

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 3.7000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 15.8000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 1.1x10-3 lb/mmbtu, 3.7 lb/h with duct burner, 3.5 lb/h without duct burner (each limit except startup and shutdown). 15.8 t/yr per rolling 12 month period for all operating modes, including startup and shutdown.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 15.2000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 64.4000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion controls and low sulfur fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 4.6x10-3 lb/mmbtu with duct burners, 6.0x10-3 lb/mmbtu without duct burners, 15.2 lb/h with duct burner, 12.9 lb/h without duct burner (each limit except startup and shutdown). 64.4 t/yr per rolling 12 month period for all operating modes, including startup and shutdown.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 15.2000 LB/H WITH DUCT BURNER. SEE NOTES.

Emission Limit 2: 64.4000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion controls and low sulfur fuel

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 4.6x10-3 lb/mmbtu with duct burners, 6.0x10-3 lb/mmbtu without duct burners, 15.2 lb/h with duct burner, 12.9 lb/h without duct burner (each limit except startup and shutdown). 64.4 t/yr per rolling 12 month period for all operating modes, including startup and shutdown.

Process/Pollutant Information

PROCESS NAME: Emergency generator (P003)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel
Throughput: 1529.00 HP
Process Notes: Emergency Generator 1000 kW (electrical), 1,140 kW (mechanical), 1,529 hp

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 8.8000 LB/H
Emission Limit 2: 2.2000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 3.5 g/kW-hr.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 16.0700 LB/H
Emission Limit 2: 4.0200 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 6.4 g/kW-hr. NSPS limit is Non-methane hydrocarbon (NMHC) + NOx emissions shall not exceed 6.4 g/kW-hr.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 2.0000 LB/H
Emission Limit 2: 0.5000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.79 g/kW-hr. Non-methane hydrocarbon (NMHC) + NOx emissions shall not exceed 6.4 g/kW-hr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5000 LB/H
Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.20 g/kW-hr.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5000 LB/H
Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.20 g/kW-hr.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 0.0160 LB/H

Emission Limit 2: 4.0000 X10-3 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Ultra low sulfur diesel fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 3.3000 X10-4 LB/H

Emission Limit 2: 8.3000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Ultra low sulfur diesel fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 1.32x10-04 g/kW-hr.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 445.0000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Efficient design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Ultra low sulfur diesel fuel

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: SIP: 20 percent opacity as a 6-minute average, except as specified by rule. NSPS: Exhaust opacity shall not exceed: 20 percent during acceleration mode; 15 percent during lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

Process/Pollutant Information

PROCESS NAME: Emergency fire pump engine (P004)

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 300.00 HP

Process Notes: Emergency Fire Pump 300 hp (224 kW mechanical)

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 1.7300 LB/H

Emission Limit 2: 0.4300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) State-of-the-art combustion design

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 3.5 g/kW-hr.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 1.9700 LB/H

Emission Limit 2: 0.4900 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 4.0 g/kW-hr. NSPS: Non-methane hydrocarbon (NMHC) + NOx emissions shall not exceed 4.0 g/kW-hr.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2400 LB/H
Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) State-of-the-art combustion design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.5 g/kW-hr. NSPS: Non-methane hydrocarbon (NMHC) + NOx emissions shall not exceed 4.0 g/kW-hr.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/H
Emission Limit 2: 0.0300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.20 g/kW-hr.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1000 LB/H
Emission Limit 2: 0.0300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.20 g/kW-hr.

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 3.2000 X10-3 LB/H
Emission Limit 2: 1.0000 X10-3 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)
CAS Number: 7664-93-9
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))
Emission Limit 1: 6.5000 X10-5 LB/H
Emission Limit 2: 1.6000 X10-5 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 1.32x10-04 g/kW-hr.

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Ultra low sulfur diesel fuel
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 87.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Efficient design
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Wet Cooling Tower (P005)
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel:
Throughput: 155083.00 GAL/M

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.3600 LB/H

Emission Limit 2: 5.9500 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.5400 LB/H

Emission Limit 2: 2.3800 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) drift eliminator with a maximum drift rate of 0.0005% and total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,500 milligrams per liter (mg/l).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Facility Information

RBLC ID:	AK-0084 (final)	**Date Determination Last Updated:**	04/16/2020
Corporate/Company Name:	DONLIN GOLD LLC.	**Permit Number:**	AQ0934CPT01
Facility Name:	DONLIN GOLD PROJECT	**Permit Date:**	06/30/2017 (actual)
Facility Contact:	STAN FOO 907-273-0200 SFOO@DONLINGOLD.COM	**FRS Number:**	Not Found
Facility Description:	The Donlin Gold Project is a gold mine located 12 miles north of Crooked Creek, Alaska on the Kuskokwim River, about 280 miles northwest of Anchorage. The deposit has proven and probable reserves estimated at 33.9 million ounces of gold at 2.1 g/t and could produce up to 1.5 million ounces annually. SIC Code 1041; NAICS Code 212221.	**SIC Code:**	1041
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	212221

Permit URL: http://dec.alaska.gov/Applications/Air/airtoolsweb/Home/ViewAttachment/16763360/d1h2U6BIY-j857LFU-WYmw2

EPA Region: 10 **COUNTRY:** USA

Facility County: BETHEL CENSUS AREA

Facility State: AK

Facility ZIP Code: 99575

Permit Issued By: ALASKA DEPT OF ENVIRONMENTAL CONS (Agency Name)
MR. JIM PLOSAY(Agency Contact) (907) 465-5103 JOHN.KUTERBACH@ALASKA.GOV

Other Agency Contact Info: AK DEC DIV. OF AIR QUALITY
410 WILLOUGHBY AVE.
SUITE 303
JUNEAU, AK 99801

Permit Notes:

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	AK	Denali NP	> 250 km
CLASS1	AK	Tuxedni	> 250 km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	3177.0000 (Tons/Year)
Nitrogen Oxides (NOx)	1282.0000 (Tons/Year)
Particulate Matter (PM)	5256.0000 (Tons/Year)
Sulfur Oxides (SOx)	26.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	1168.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Twelve (12) Large ULSD/Natural Gas-Fired Internal Combustion Engines

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel and Natural Gas

Throughput: 143.50 MMBtu/hr

Process Notes: Twelve 17-MW Wartsila 18V50DF ULSD/Natural Gas-Fired Internal Combustion Engines. Each engine rated at: 143.5 MMBtu/hr on ULSD 141.4 MMBtu/hr on natural gas

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.1800 G/KW-HR (ULSD) 3-HOUR AVERAGE

Emission Limit 2: 0.1200 G/KW-HR (NATURAL GAS 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Oxidation Catalyst and Maintain Good Combustion Practices
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential CO emissions of 29.2 tpy for each engine (EU 1-12).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1299630.0000 TPY (ULSD)
Emission Limit 2: 869621.0000 TPY (NATURAL GAS)
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Cumbustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.2100 G/KW-HR (ULSD) 3-HOUR AVERAGE

Emission Limit 2: 0.0900 G/KW-HR (NATURAL GAS 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Oxidation Catalyst and Good Combustion Practices
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential VOC emissions of 94.0 tpy for each engine (EU 1-12).

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2900 G/KW-HR (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.1300 G/KW-HR (NATURAL GAS 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Potential particulate matter emissions of 47.0 tpy for each engine (EU 1-12).

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/KW-HR (ULSD)

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Potential particulate matter emissions of 47.0 tpy for each engine (EU 1-12).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2900 G/KW-HR (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.1300 G/KW-HR (NATURAL GAS 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Potential particulate matter emissions of 47.0 tpy for each engine (EU 1-12).

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/KW-HR (ULSD) 3-HOUR AVERAGE

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Potential particulate matter emissions of 47.0 tpy for each engine (EU 1-12).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2900 G/KW-HR (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.1300 G/KW-HR (NATURAL GAS 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Potential particulate matter emissions of 47.0 tpy for each engine (EU 1-12).

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/KW-HR (ULSD) 3-HOUR AVERAGE

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Potential particulate matter emissions of 47.0 tpy for each engine (EU 1-12).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.5300 G/KW-HR (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0800 G/KW-HR (NATURAL GAS 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Selective Catalytic Reduction (SCR) and Good Combustion Practices
Est. % Efficiency: 95.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential NOx emissions of 85.9 tpy for each engine (EU 1-12).

Process/Pollutant Information

PROCESS NAME: Ore Crushing and Transfers (Enclosures)
Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))

Primary Fuel:

Throughput: 5100.00 tph

Process Notes: Process includes one (1) gyratory crusher's dump pocket rated at 5,100 tph, two (2) conveyors with a rating of 5,100 tph, one (1) conveyor with a rating of 3,303 tph, and one (1) conveyor with a rating of 660 tph.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0005 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Enclosures
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0005 LB/TON 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Enclosures
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0005 LB/TON 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Enclosures
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Ore Crushing and Transfers (Dust Collector)
Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))
Primary Fuel:
Throughput: 5100.00 tph
Process Notes: One (1) gyrating crusher circuit (crusher, dust collector, surge pocket, and apron feeder) rated at 5,100 tph, four (4) apron feeders rated at 3,303 tph combined, and two (2) pebble crushers rated at 660 tph combined.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0100 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 95.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0100 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 95.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0100 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 95.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Autoclaves, Two (2) for Processing Gold
Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))
Primary Fuel:
Throughput: 210.00 tph
Process Notes: Two (2) autoclaves each rated at 210 tph. Autoclaves will operate in parallel. Autoclaves will be used for the oxidation of gold-bearing sulfide minerals to metal sulfates using a combination of heat, acid, and oxygen sparging.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 88.0000 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2200 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Venturi Scrubber
Est. % Efficiency: 85.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Percent efficiency of venturi scrubber listed as 70-99% control (85% average was entered into cell). For emissions rate, a 10x factor of safety was used.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2200 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (A) Venturi Scrubber
Est. % Efficiency: 85.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Percent efficiency of venturi scrubber listed as 70-99% control (85% average was entered into cell). For emissions rate, a 10x factor of safety was used.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2200 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Venturi scrubber
Est. % Efficiency: 85.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Percent efficiency of venturi scrubber listed as 70-99% control (85% average was entered into cell). For emissions rate, a 10x factor of safety was used.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0400 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (A) Activated Carbon Adsorption
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 67659.0000 TPY (ULSD)
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Boilers and Heaters (natural gas and diesel fired)
Process Type: 13.900 (Other Fuels and Combinations (¿100 million BTU/H)(e.g., solid/liquid, liquid/gas))
Primary Fuel: Natural Gas and Diesel
Throughput: 29.29 MMBtu/hr

Process Notes: Two (2) natural gas and diesel fired 29.29 MMBtu/hr process heaters, one (1) natural gas and diesel fired 20.66 MMBtu/hr boiler, one (1) natural gas and diesel fired 16 MMBtu/hr heater, one (1) natural gas fired 2 MMBtu/hr SO2 burner, one (1) diesel fired 2 MMBtu/hr SO2 burner, one hundred and 38 (138) natural gas fired building heaters, seven (7) natural gas fired 2.5 MMBtu/hr air handler heaters, and twenty (20) diesel fired portable heaters.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0384 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0824 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.1540 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0980 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0254 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0075 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0254 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0075 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0254 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0075 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0015 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0054 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 176347.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 176,347 tpy CO2e is total for EUs 15-26 combined.

Process/Pollutant Information

PROCESS NAME: Two (2) Heaters (natural gas and diesel fired)
Process Type: 13.900 (Other Fuels and Combinations (¿100 million BTU/H)(e.g., solid/liquid, liquid/gas))
Primary Fuel: Natural Gas
Throughput: 16.50 MMBtu/hr
Process Notes: Two (2) 16.5 MMBtu/hr heaters (natural gas and diesel fired).

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0384 LB/MMBTU (ULSD) 3-HOUR AVERAGE
Emission Limit 2: 0.0824 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.1540 LB/MMBTU (ULSD) 3-HOUR AVERAGE

Emission Limit 2: 0.0490 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Low-NOx Burners

Est. % Efficiency: 60.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 176347.0000 TPY YEARLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 176,347 tpy CO2e for EUs 15 - 26 combined

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0015 LB/MMBTU (ULSD) 3-HOUR AVERAGE

Emission Limit 2: 0.0054 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0254 LB/MMBTU (ULSD) 3-HOUR AVERAGE

Emission Limit 2: 0.0075 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Clean Fuel and Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0254 LB/MMBTU (ULSD) 3-HOUR AVERAGE

Emission Limit 2: 0.0075 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Clean Fuel and Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0254 LB/MMBTU (ULSD) 3-HOUR AVERAGE

Emission Limit 2: 0.0075 LB/MMBTU (NAT. GAS) 3-HOUR AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Clean Fuel and Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Black Start and Emergency Internal Cumbustion Engines

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel

Throughput: 1500.00 kWe

Process Notes: Two (2) 600 kWe black start diesel generators and four (4) 1,500 kWe emergency diesel generators.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 8.0000 G/KW-HR 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good Combustion Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 8.0 g/kW-hr includes NOx and VOC emissions. NSPS Subpart IIII engines.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 4.3800 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII engines

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 2781.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: 2,781 tpy CO2e for EUs 29 - 34 combined. NSPS Subpart IIII engines

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2500 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII engines

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2500 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: NSPS Subpart IIII engines

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2500 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII engines

Process/Pollutant Information

PROCESS NAME: Fire Pump Diesel Internal Combustion Engines
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 252.00 hp
Process Notes: Three (3) 252 hp fire pump diesel internal combustion engines.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 3.7000 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 83.70 g/kW-hr includes NOx and VOC emissions. NSPS Subpart IIII engines.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 216.0000 TPY (COMBINED) YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 216 tpy CO2e for EUs 35 - 37 combined. NSPS Subpart IIII engines

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.3000 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII engines

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1900 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII engines

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1900 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII engines

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1900 G/KW-HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Clean Fuel and Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: NSPS Subpart IIII engines

Process/Pollutant Information

PROCESS NAME: Carbon Regeneration Kiln
Process Type: 49.999 (Other Organic Evaporative Loss Sources)
Primary Fuel: Electricity
Throughput: 1.65 tph of carbon

Process Notes: Carbon regeneration kiln heats with electricity activated carbon to reactivate the carbon for reuse in the process.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.8800 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0200 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.4400 LB/HR 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good Operating Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4400 LB/HR 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Wet Off-Gas Cooler

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Wet Off-Gas Cooler uses a solution to remove particulate matter from exhaust stream.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4400 LB/HR 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Wet Off-Gas Cooler

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Wet Off-Gas Cooler uses a solution to remove particulate matter from exhaust stream.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4400 LB/HR 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Wet Off-Gas Cooler

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Wet Off-Gas Cooler uses a solution to remove particulate matter from exhaust stream.

Process/Pollutant Information

PROCESS NAME: Induction Smelting Furnace

Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))

Primary Fuel: electricity

Throughput: 0

Process Notes: Induction Smelting Furnace related to gold processing.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 GR/DSCF 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Dust Collector

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 GR/DSCF 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Pressure Oxidation Hot Cure
Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))
Primary Fuel:
Throughput: 0

Process Notes: Oxidized ore concentrate slurry from autoclaves will enter three pressure oxidation hot cure tanks (EUs 85-87). This process will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4000 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emissions of 1.75 tpy particulate matter for each of EUs 85 - 87.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4000 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Emissions of 1.75 tpy particulate matter for each of EUs 85 - 87.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good Operating Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emissions of 1.75 tpy particulate matter for each of EUs 85 - 87.

Process/Pollutant Information

PROCESS NAME: Electrowinning Cells

Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))

Primary Fuel: Electricity

Throughput: 211.00 gpm

Process Notes: Electrowinning cells (EUs 91-94) are where precious metals are precipitated out of a precious metal bearing solution through electrolysis. This process will emit particulate.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1900 LB/HR 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good Operating Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.8 tpy of particulates combined from EUs 91-94.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1900 LB/HR 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good Operating Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.8 tpy of particulates combined from EUs 91-94.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1900 LB/HR 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.8 tpy of particulates combined from EUs 91-94.

Process/Pollutant Information

PROCESS NAME: Mercury Retort
Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))
Primary Fuel: Electricity
Throughput: 0
Process Notes: The mercury retort (EU ID 97) is where the precious metal bearing sludge recovered from EUs 91 - 94 (electrowining cells) will be heated to recover mercury before being smelted in EU ID 100. The retort will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Mercury Retort will have 0.1 tpy of particulate emissions.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/HR 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Mercury Retort will have 0.1 tpy of particulate emissions.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Operating Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: Mercury Retort will have 0.1 tpy of particulate emissions.

Process/Pollutant Information

PROCESS NAME: Sample Receiving and Preparation Laboratory
Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))
Primary Fuel:
Throughput: 3575.00 lb/day
Process Notes: The sample receiving and preparation laboratory includes (EU IDs 103 and 104). EU IDs 104 will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0090 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Total particulate emissions from prep lab (EUs 103 and 104) equals 2 tpy.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0090 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Dust Collector

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Total particulate emissions from prep lab (EUs 103 and 104) equals 2 tpy.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0090 GR/DSCF 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Dust Collector

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Total particulate emissions from prep lab (EUs 103 and 104) equals 2 tpy.

Process/Pollutant Information

PROCESS NAME: Assay Laboratory

Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))

Primary Fuel:

Throughput: 3575.00 lb/day

Process Notes: Assay Laboratory for gold production will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0040 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Total particulate emissions from assay lab (EU 106) equals 4.1 tpy.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0040 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: Total particulate emissions from assay lab (EU 106) equals 4.1 tpy.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0040 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Total particulate emissions from assay lab (EU 106) equals 4.1 tpy.

Process/Pollutant Information

PROCESS NAME: Metallurgical Laboratory
Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))
Primary Fuel:
Throughput: 3575.00 lb/day
Process Notes: The metallurgical laboratory includes EUs 108 and 109. EU 109 will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0090 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Total particulate emissions from metallurgical lab (EUs 108 and 109) equals 2 tpy.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0090 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Total particulate emissions from metallurgical lab (EUs 108 and 109) equals 2 tpy.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Total particulate emissions from metallurgical lab (EUs 108 and 109) equals 2 tpy.

Process/Pollutant Information

PROCESS NAME: Reagent Handling for Water Treatment

Process Type: 90.019 (Lime/Limestone Handling/Kilns/Storage/Manufacturing)

Primary Fuel:

Throughput: 1500.00 scfm

Process Notes: Water conditioning circuit (EU 111) with the water treatment plant will emit particulates through the transfer of water conditioning reagents.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 1.13 tpy of particulate emissions.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Dust Collector

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 1.13 tpy of particulate emissions.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Dust Collector

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 1.13 tpy of particulate emissions.

Process/Pollutant Information

PROCESS NAME: Mill Reagents Handling

Process Type: 90.019 (Lime/Limestone Handling/Kilns/Storage/Manufacturing)

Primary Fuel:

Throughput: 3002.00 ACFM

Process Notes: The mill reagents handling will include lime handling and slaking (EU IDs 59 and 61), flocculant handling and mixing (EU ID 65), caustic soda handling and mixing (EU ID 67), copper sulfate handling and mixing (EU ID 69), xanthate (PAX) handling and mixing (EU ID 71), and soda ash handling and mixing (EU IDs 73 and 75). The mill reagents handling will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Dust Collector

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Particulate emissions from this list of EUs range from 0.6 tpy for flocculant handling and mixing (EU 65) to 2.3 tpy for both copper sulfate handling and mixing (EU 69) and xanthate (PAX) handling and mixing (EU 71).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Particulate emissions from this list of EUs range from 0.6 tpy for flocculant handling and mixing (EU 65) to 2.3 tpy for both copper sulfate handling and mixing (EU 69) and xanthate (PAX) handling and mixing (EU 71).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Dust Collector
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Particulate emissions from this list of EUs range from 0.6 tpy for flocculant handling and mixing (EU 65) to 2.3 tpy for both copper sulfate handling and mixing (EU 69) and xanthate (PAX) handling and mixing (EU 71).

Process/Pollutant Information

PROCESS NAME: Mill Reagents Handling

Process Type: 90.019 (Lime/Limestone Handling/Kilns/Storage/Manufacturing)

Primary Fuel:

Throughput: 628.00 ACFM

Process Notes: The mill reagents handling will include lime handling and slaking (EU 63). The mill reagents handling will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet Scrubber
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Particulate emissions of 0.5 tpy.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet Scrubber
Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Particulate emissions of 0.5 tpy.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 GR/DSCF 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet Scrubber
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Particulate emissions of 0.5 tpy.

Process/Pollutant Information

PROCESS NAME: Fuel Tanks
Process Type: 42.005 (Petroleum Liquid Storage in Fixed Roof Tanks)
Primary Fuel: Diesel
Throughput: 0
Process Notes: Multiple fuel tanks, the largest of which are EUs 126 - 140 with capacities of 2.5 million gallons each. These tanks will emit VOCs.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 1.7000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Submerged Fill
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: VOC emissions of 1.7 tpy for all fuel tanks EUs 126 through 157.

Process/Pollutant Information

PROCESS NAME: Incinerator (Camp Waste)
Process Type: 21.400 (Municipal Waste Combustion)
Primary Fuel:
Throughput: 990.00 lb/hr
Process Notes: EU 27

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 13.0000 PPMVD AT 7% 02 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Camp Waste Incinerator has CO PTE of 0.03 tpy.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 170.0000 PPMVD AT 7% 02 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Camp Waste Incinerator has NOx PTE of 0.7 tpy.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 270.0000 MG/DSCM AT 7% O2 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Camp Waste Incinerator has particulate matter PTE of 4.79 tpy.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 270.0000 MG/DSCM AT 7% O2 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Camp Waste Incinerator has particulate matter PTE of 4.79 tpy.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 270.0000 MG/DSCM AT 7% O2 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Camp Waste Incinerator has particulate matter PTE of 4.79 tpy.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 3934.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Camp Waste Incinerator (EU 27) and Sewage Sludge Incinerator (EU 28) have combined GHG PTE of 3,934 tpy.

Process/Pollutant Information

PROCESS NAME: Incinerator (Sewage Sludge)
Process Type: 21.500 (Wastewater Treatment Sludge Incineration)
Primary Fuel:
Throughput: 0.06 ton/day
Process Notes: EU 28

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 3934.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Camp Waste Incinerator (EU 27) and Sewage Sludge Incinerator (EU 28) have combined GHG PTE of 3,934 tpy.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 52.0000 PPMVD AT 7% 02 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential CO emissions from Sewage Sludge Incinerator (EU 28) of 0.01 tpy.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 210.0000 PPMVD AT 7% 02 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential NOx emissions from Sewage Sludge Incinerator (EU 28) of 0.1 tpy.

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 60.0000 MG/DSCM AT 7% O2 3-HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential particulate matter emissions from Sewage Sludge Incinerator (EU 28) of 0.01 tpy.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 60.0000 MG/DSCM AT 7% O2 3
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential particulate matter emissions from Sewage Sludge Incinerator (EU 28) of 0.01 tpy.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 60.0000 MG/DSCM AT 7% O2 3
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential particulate matter emissions from Sewage Sludge Incinerator (EU 28) of 0.01 tpy.

Process/Pollutant Information

PROCESS NAME: Acidulation and Neutralization Tanks

Process Type: 90.021 (Metallic Mineral/Ore Processing (except 90.018, 90.020 & 90.031))

Primary Fuel:

Throughput: 0

Process Notes: GHG emissions from the acidulation tanks (EU ID 124) and the neutralization tanks (EU ID 125).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 273175.0000 TPY YEARLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good Operating Practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Potential GHG emissions from acidulation tanks (EU 124) and neutralization tanks (EU 125) combined of 273,175 tpy.

Process/Pollutant Information

PROCESS NAME: Fugitive Dust from Unpaved Roads

Process Type: 99.150 (Unpaved Roads)

Primary Fuel:

Throughput: 5024900.00 VMT/yr

Process Notes: Access road mine to campsite (EU 158) has a rating of 101,367 vehicle miles traveled per year (VMT/yr), access road airport to camp has a rating of 60,173 VMT/yr, and haul road has a rating of 791,227 - 5,024,900 VMT/yr.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 3500.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Water and Chemical Suppressant Spray
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential combined emissions for access road mine to campsite (EU 158), access road airport to camp, and haul road: total particulate matter = 3,500 tpy PM-10 = 800 tpy PM-2.5 = 80 tpy

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 3500.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Water and Chemical Suppressant Spray
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential combined emissions for access road mine to campsite (EU 158), access road airport to camp, and haul road: total particulate matter = 3,500 tpy PM-10 = 800 tpy PM-2.5 = 80 tpy

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 3500.0000 TPY YEARLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Water and Chemical Suppressant Spray

Est. % Efficiency: 90.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Potential combined emissions for access road mine to campsite (EU 158), access road airport to camp, and haul road: total particulate matter = 3,500 tpy PM-10 = 800 tpy PM-2.5 = 80 tpy

Process/Pollutant Information

PROCESS NAME: Material Loading and Unloading

Process Type: 99.190 (Other Fugitive Dust Sources)

Primary Fuel:

Throughput: 155123914.00 tpy

Process Notes: Fugitive emissions from material loading and unloading (EU IDs 115 - 120). The material loading and unloading will emit particulates. Waste Unloading and Reloading (EU 120) has the largest throughput with a rating of 155,123,914 tpy.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 530.0000 TPY (COMBINED) YEARLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Best Practical Methods/Fugitive Dust Control Plan (includes water spray)
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential emissions for total particulates from EUs 115 - 120 combined equals 530 tpy.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 530.0000 TPY (COMBINED) YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Best Practical Methods and Fugitive Dust Control Plan (to include water spray)
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential emissions for total particulates from EUs 115 - 120 combined equals 530 tpy.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 530.0000 TPY (COMBINED) YEARLY
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Best Practical Methods/Fugitive Dust Control Plan (includes water spray)
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential emissions for total particulates from EUs 115 - 120 combined equals 530 tpy.

Process/Pollutant Information

PROCESS NAME: Drilling and Blasting
Process Type: 99.190 (Other Fugitive Dust Sources)
Primary Fuel:
Throughput: 620.00 blasts/yr
Process Notes: Fugitive emissions from drilling (EU ID 113, rating of 141,512 holes/yr) and blasting (EU ID 114, rating of 620 blasts/yr). The drilling will emit particulates, and the blasting will emit CO, NOx, particulates, and GHG.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 1900.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: Potential emissions for CO of 1,900 tpy are specific to blasting (EU 114).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 50.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential emissions for NOx of 50 tpy are specific to blasting (EU 114).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 11800.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good Combustion Practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: Potential emissions for GHG of 11,800 tpy are specific to blasting (EU 114).

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 273.0000 TPY (COMBINED) YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Best Practical Methods
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Potential emissions for particulate matter of 273 tpy are for drilling (EU 113) and blasting (EU 114) combined.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 273.0000 TPY (COMBINED) YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Best Practical Methods
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes: Potential emissions for particulate matter of 273 tpy are for drilling (EU 113) and blasting (EU 114) combined.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 273.0000 TPY (COMBINED) YEARLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Best Practical Methods

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Potential emissions for particulate matter of 273 tpy are for drilling (EU 113) and blasting (EU 114) combined.

Process/Pollutant Information

PROCESS NAME: Fugitive Dust from Wind Erosion

Process Type: 99.190 (Other Fugitive Dust Sources)

Primary Fuel:

Throughput: 0

Process Notes: Exposed and active mining areas can be a source of fugitive emissions due to wind erosion. The wind erosion will emit particulates.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 32.0000 TPY YEARLY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Best Practical Methods / Fugitive Dust Control Plan (includes applying water)
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 32.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Best Practical Methods / Fugitive Dust Control Plan (includes water suppression)
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 32.0000 TPY YEARLY
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Best Practical Methods / Fugitive Dust Control Plan (includes water suppression)
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Facility Information

RBLC ID:	MI-0425 (final)	**Date Determination Last Updated:**	11/15/2017
Corporate/Company Name:	ARAUCO NORTH AMERICA	**Permit Number:**	59-16A
Facility Name:	GRAYLING PARTICLEBOARD	**Permit Date:**	05/09/2017 (actual)
Facility Contact:	RICH WEBER 803-431-2046 RICH.WEBER@ARAUCO-NA.COM	**FRS Number:**	Not Found
Facility Description:	Particleboard manufacturing.	**SIC Code:**	2493
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	321219
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	CRAWFORD		
Facility State:	MI		
Facility ZIP Code:	49738		
Permit Issued By:	MICHIGAN DEPT OF ENVIRONMENTAL QUALITY (Agency Name) MS. CINDY SMITH(Agency Contact) (517)284-6802 SMITHC17@MICHIGAN.GOV		
Other Agency Contact Info:	Please contact the permit engineer, Mr. Andrew Drury, at 517-284-6792 or at drurya@michigan.gov for technical questions regarding this permit. Thank you.		
Permit Notes:			

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	MI	Seney	100km - 50km
INTL BORDER		US/Canada Border	100km - 50km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	211.3300 (Tons/Year)
Nitrogen Oxides (NOx)	452.5700 (Tons/Year)

Particulate Matter (PM)	214.1300 (Tons/Year)
Sulfur Oxides (SOx)	12.9900 (Tons/Year)
Volatile Organic Compounds (VOC)	400.7200 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: EU-FLAKERS (7 Green flakers with baghouse, dry ESP and RTO Control)

Process Type: 30.590 (Miscellaneous Particle & Strand Board Operations)

Primary Fuel:

Throughput: 0

Process Notes: Seven green flakers with emissions controlled by a baghouse (BH04) as well as the thermal energy plant ESP and dryer RTO while the dryer is operating (DESP1 and RTO1). The total hours of operation shall not exceed 460 hours per 12-month rolling time period when emissions are not controlled by DESP1 and RTO1. The baghouse must be in use at all times.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 76.0000 LB/H DURING BYPASS OF RTO1&DESP1

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) RTO for VOC as well as baghouse and dry ESP. Bypass of RTO is allowed for up to 460 hours per year.

Est. % Efficiency: 90.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit above is 76 lb/hr during bypass of RTO1 and DESP1 which is limited to 460 hours per year. The flakers are allowed to operate for up to 460 hours per year while bypassing the ESP and the RTO. The baghouse will be in use at all times. The RTO is 95% efficient. The 90% control efficiency considers the 460 hours of uncontrolled operation and the use of the RTO for 8300 hours per year. Emissions from the flakers through the RTO are not separately limited; there is a VOC limit for the RTO that addresses all processes that it controls.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.0100 LB/H DURING BYPASS OF RTO1&DESP1.

Emission Limit 2: 0.0020 GR/DSCF DURING RTO BYPASS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Baghouse, dry ESP, RTO. Bypass of dry ESP and RTO is allowed for up to 460 hours per year.

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Little or no condensable particulate is expected to be emitted from the flakers because they operate at ambient temperature. PM, PM10, and PM2.5 BACT was determined to be a fabric filter baghouse with a PM emission limit of 0.002 gr/dscf and PM, PM10, and PM2.5 emission limits of 1.01 lb/hr per pollutant during bypass of the RTO. The flaker baghouse exhaust would be routed to the dryer RTO for all but 460 hours per year. Emissions from the flakers through the RTO are not separately limited; there are limits for the dry ESP and RTO that address all processes they control. Baghouse efficiency is 99%. Dry ESP and RTO efficiency not addressed here.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.0100 LB/H DURING BYPASS OF RTO1&DESP1.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Baghouse, dry ESP, RTO. Bypass of dry ESP and RTO is allowed for up to 460 hours per year.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit is 1.01 lb/hr during bypass of RTO1 & DESP1 which is limited to 460 hours per year. Little or no condensable particulate is expected to be emitted from the flakers because they operate at ambient temperature. PM, PM10 and PM2.5 BACT was determined to be a fabric filter baghouse with a PM emission limit of 0.002 gr/dscf and PM, PM10, and PM2.5 emission limits of 1.01 lb/hr per pollutant during bypass of the RTO. The flaker baghouse exhaust would be routed to the dryer RTO for all but 460 hours per year. Emissions from the flakers through the RTO are not separately limited; there are limits for the dry ESP and RTO that address all processes they control. Baghouse efficiency is 99%. Dry ESP and RTO efficiency not addressed here.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.0100 LB/H DURING BYPASS OF RTO1&DESP1.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Baghouse, dry ESP and RTO. Bypass of dry ESP and RTO is allowed up to 460 hours per year.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit is 1.01 lb/hr during bypass of RTO1&DESP1 which is limited to 460 hours per year. Little or no condensable particulate is expected to be emitted from the flakers because they operate at ambient temperature. PM, PM10 and PM2.5 BACT was determined to be a fabric filter baghouse with a PM emission limit of 0.002 gr/dscf and PM, PM10, and PM2.5 emission limits of 1.01 lb/hr per pollutant during bypass of the RTO. The flaker baghouse exhaust would be routed to the dryer RTO for all but 460 hours per year. Emissions from the flakers through the RTO are not separately limited; there are limits for the dry ESP and RTO that address all processes they control. Baghouse efficiency is 995. Dry ESP and RTO efficiency not addressed here.

Process/Pollutant Information

PROCESS NAME: FGDRYERRTO (2 Natural Gas Fired Rotary Dryers

Process Type: 30.530 (Board Mfg. Dryers)

Primary Fuel: Natural gas

Throughput: 139.90 MMBTU/H

Process Notes: 2 natural gas fired rotary dryers identified as EUDRYER1 and EUDRYER2 in the flexible group FGDRYERRTO. The maximum design heat input capacity for each dryer burner shall not exceed 139.9 MMBTU/H per dryer. The maximum design heat input capacity for RTO1 shall not exceed a maximum of 25 MMBTU per hour. The dryers and RTO1 are equipped with low NOx burners. The dryers also have product recovery cyclones that are not considered to be pollution control equipment.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 36.3000 LB/H TEST PROTOCOL SHALL SPECIFY AVG TIME.

Emission Limit 2: 0.4300 LB/TON OVEN DRIED

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and RTO1.

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit applies to the total emissions from all of the processes exhausted through the RTO. The second emission limit is 0.43 lb/oven dried ton.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 95.0000 LB/H TEST PROTOCOL SHALL SPECIFY AVG TIME.

Emission Limit 2: 1.1000 LB/TON OVEN DRIED

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and low NOx burners

Est. % Efficiency: 50.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The second emission limit is 1.1 lb/oven dried ton. SNCR and low NOx burners were determined to be technically feasible add-on control technologies. However, SNCR applied to just the thermal energy plant would not be effective. Any reagent (ammonia or urea) and some of the nitrogen produced by the SNCR would be oxidized to NOx in the RTO used to comply with 40 CFR 63 Subpart DDDD. Therefore, SNCR is not feasible for the thermal energy plant exhaust. In addition, the RTO exhaust temperature is 200 to 300 deg. F, well below the 1,550 to 1,950 deg F required for SNCR to operate. SNCR is not technically feasible for the RTO exhaust. This emission limit applies to the total emissions from all of the processes exhausted through the RTO.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 29.1000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and RTO.

Est. % Efficiency: 70.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO, except for the 460 hours per year the flakers are allowed to bypass the RTO. Oxidation control efficiency estimated to be 70% to 90%.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 28.4000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Good combustion practices and RTO.
Est. % Efficiency: 70.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO except for the 460 hours per year the flakers are allowed to bypass the RTO. Oxidation control efficiency estimated to be 70% to 90%.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 16.5500 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Good combustion practices and RTO.
Est. % Efficiency: 70.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO, except for the 460 hours per year the flakers are allowed to bypass the RTO. Oxidation control efficiency estimated to be 70% to 90%.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 7.1000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and RTO.

Est. % Efficiency: 95.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO, except for the 460 hours per year the flakers are allowed to bypass the RTO.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 205655.0000 TON/YR 12-MO ROLLING TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good operating and maintenance practices, natural gas only.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit is 205,655 tons/year based on a 12-month rolling time period as determined at the end of each calendar month. This emission limit applies to the total emissions from all of the processes exhausted through the RTO. Control cost for carbon capture and sequestration determined to be $102 per ton, which is not cost effective. This cost is based on controlling the total GHG emissions from the facility.

Process/Pollutant Information

PROCESS NAME: EUENERGY in FGDRYERRTO (Thermal Energy Plant)

Process Type: 12.120 (Biomass (includes wood, wood waste, bagasse, and other biomass))

Primary Fuel: Wood derived fuel and biomass

Throughput: 110.00 MMBTU/H

Process Notes: One thermal energy plant that combusts wood-derived fuel, clean cellulosic biomass, and natural gas. Natural gas is primarily used for startup. Exhaust from the flakers is used to condition the Thermal Energy Plant exhaust for proper operation of the dry ESP. The heat generated in the Thermal Energy Plant is used in the flake dryers and exhausted into the RTO.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 36.3000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2: 0.4300 LB/TON OVEN DRIED TEST PROTOCOL WILL SPECIFY AVG TIME

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Good combustion practices and RTO1.

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 95.0000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2: 1.1000 LB/TON OVEN DRIED TEST PROTOCOL WILL SPECIFY AVG TIME

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Good combustion practices and low NOx burners

Est. % Efficiency: 50.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The second emission limit is 1.1 lb/oven dried ton. SNCR and low NOx burners were determined to be technically feasible add-on control technologies. However, SNCR applied to just the thermal energy plant would not be effective. Any reagent (ammonia or urea) and some of the nitrogen produced by the SNCR would be oxidized to NOx in the RTO used to comply with 40 CFR 63 Subpart DDDD. Therefore, SNCR is not feasible for the thermal energy plant exhaust. In addition, the RTO exhaust temperature is 200 to 300 deg. F, well below the 1550 to 1950 deg. F required for SNCR to operate. SNCR is not technically feasible for the RTO exhaust. This emission limit applies to the total emissions from all of the processes exhausted through the RTO.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 29.1000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices, dry ESP, RTO.

Est. % Efficiency: 70.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO except for the 460 hours per year the flakers are allowed to bypass the RTO. Oxidation control efficiency estimated to be 70% to 90%.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 28.4000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Good combustion practices, dry ESP, RTO.

Est. % Efficiency: 70.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO, except for the 460 hours per year the flakers are allowed to bypass the RTO. Oxidation control efficiency estimated to be 70% to 90%.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 16.5500 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Good combustion practices, dry ESP and RTO.

Est. % Efficiency: 70.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO, except for the 460 hours per year the flakers are allowed to bypass the RTO. Oxidation control efficiency estimated to be 70% to 90%.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 7.1000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good combustion practices and RTO.

Est. % Efficiency: 95.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO, except for the emissions due to the 460 hours per year the flakers are allowed to bypass the RTO.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 205655.0000 T/YR 12-MO ROLLING TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good operating and maintenance practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This emission limit applies to the total emissions from all of the processes exhausted through the RTO. Control cost for carbon capture and sequestration determined to be $102 per ton, which is not cost effective. This cost is based on controlling the total GHG emissions from the facility.

Process/Pollutant Information

PROCESS NAME: FGMTRLHNDL (3 Overs mills EUOVERS1, EUOVERS2, EUOVERS3 in FGMTRLHNDL)
Process Type: 30.510 (Board Mfg, Material Handling. (e.g. unloading, storage & distribution))
Primary Fuel:
Throughput: 0
Process Notes: Three overs mills within the flexible group FGMTRLHNDL. Emissions are controlled by a baghouse (BH05).

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/Fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The limits apply to the combined emissions from the overs mills.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/Fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This limit applies to the combined emissions from the overs mills.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/Fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: This limit applies to the combined emissions from the overs mills.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.7500 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operating practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The limit applies to the combined emissions from the overs mills.

Process/Pollutant Information

PROCESS NAME: EUFINES in FGMTRLHNDL

Process Type: 30.510 (Board Mfg, Material Handling. (e.g. unloading, storage & distribution))

Primary Fuel:

Throughput: 0

Process Notes: Conveyance of fines from screening to the energy plant dust silo. Emissions are controlled by a baghouse (BH20).

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0300 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0300 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.9300 LB/H TEST PROTOCOL
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good design and operating practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The company determined that add-on control would not be cost effective; cost of control for other small VOC sources; the lowest cost estimates was $16,000 per ton for a source with a higher emission limit (EUPTL1, 4.3 lb/hr).

Process/Pollutant Information

PROCESS NAME: EUSIFTERS in FGMTRLHNDL
Process Type: 30.590 (Miscellaneous Particle & Strand Board Operations)
Primary Fuel:
Throughput: 0
Process Notes: Core and surface sifter/shaker. Emissions are controlled by a baghouse (BH08).

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4100 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Baghouse/fabric filters

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUBARKSTG in FGMTRLHNDL

Process Type: 30.510 (Board Mfg, Material Handling. (e.g. unloading, storage & distribution))

Primary Fuel:

Throughput: 0

Process Notes: Conveyance of material to bark storage. Emissions are controlled by a baghouse (BH14B).

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0600 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.5500 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good design and operating practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The company determined that add-on control would not be cost effective; cost of control for other small VOC sources; the lowest cost estimate was $16,000 per ton for a source with a higher emission limit (EUPTL1, 4.3 lb/hr).

Process/Pollutant Information

PROCESS NAME: EUBLENDING in FGBLNDFRM
Process Type: 30.590 (Miscellaneous Particle & Strand Board Operations)
Primary Fuel:
Throughput: 0
Process Notes: Core and surface blending operations. Emissions are controlled by a baghouse (BH12).

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 2.4300 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Control cost for blending stack is $88,700 per ton which is not cost effective. Control cost for combining the blending and forming stacks in a single control device is not cost effective ($63,900/ton). Costs are for an RTO.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4100 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Baghouse/fabric filters

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Bathouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4100 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

Process/Pollutant Information

PROCESS NAME: EUFORMING in FGBLNDFRM

Process Type: 30.590 (Miscellaneous Particle & Strand Board Operations)

Primary Fuel:

Throughput: 0

Process Notes: Core and surface forming operations with emissions controlled by baghouses BH12 and BH13 through forming stacks SV11 and SV13.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 9.3400 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: This limit is combined for both SV12 and SV13. SV12 control cost is $39,200. SV13 control cost is $68,200. Control cost for combining the blending and forming stacks in a single control device is not cost effective ($63,900). Costs are for an RTO.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.0500 LB/H THROUGH SV11

Emission Limit 2: 0.6600 LB/H THROUGH SV13

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Baghouse/fabric filters

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a third emission limit for PM. Emission Limit 3 = 0.002 GR/DSCF.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.0500 LB/H THRU SV11

Emission Limit 2: 0.6600 LB/H THRU SV13

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Baghouse/fabric filters

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.0580 LB/H THRU SV11

Emission Limit 2: 0.6600 LB/H THRU SV13

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Baghouse/fabric filters

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

Process/Pollutant Information

PROCESS NAME: EUPRESS in FGPRESSCOOL

Process Type: 30.520 (Board Presses.)

Primary Fuel:

Throughput: 0

Process Notes: Continuous press system to form mats into raw particle boards equipped with a wet scrubber (WS01) to control particle emissions. The press system and board cooling systems share an exhaust due to the use of a single enclosure to comply with the PCWP MACT.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.8500 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 12.5000 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a third emission limit: Emission Limit 3 = 0.042 lb/1000 sq. ft., 3/4 inch basis. The lowest estimated cost was $35,000/ton for catalytic regenerative oxidation to control 12.5 tons per year (tpy) CO. All other costs for other control options were higher. CO BACT was determined to be good design and operation practices with an emission limit of 2.85 lb/hr, 0.042 lb/1000 sq ft, 3/4 inch basis and 12.5 tpy. These limits apply to the total emissions from the press and board cooler.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.5000 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 11.0000 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There is a third emission limit: Emission Limit 3 = 0.04 lb/1000 sq. ft., 3/4 inch basis. There is no combustion associated with the press, but there are NOx emission factors. All control options would be combustion controls. There is no NOx emitted from the board cooling system. These limits apply to the total emissions from the press and board cooler.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 12.2000 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Wet scrubber
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Wet scrubber 70 to 90+% efficient for filterable PM. The limit applies to the total emissions from the press and board cooler.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.2000 LB/H TEST PROTOCOL WILL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Wet scrubber
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Wet scrubber 50 to 90% efficiency for condensable PM and 84 to 90% efficiency for filterable PM10. The limit applies to the total emissions from the press and board cooler.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.2000 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Wet scrubber

Est. % Efficiency: 90.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Wet scrubber 50 to 90% efficiency for PM and 84 to 90% efficient for filterable PM10. The limit applies to the total emissions from the press and board cooler.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 49.5000 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 216.8000 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are three emission limits: Emission Limit 3 = 0.728 lb/1000 sq. ft., 3/4 inch basis. The lowest estimated cost was $10,130/ton for catalytic regenerative oxidation to control the 216.8 tpy VOC. All other costs for other control options were higher. When considering CO control as well as VOC, catalytic regenerative oxidation cost is $14,000/ton. Add on control is not cost effective. Note these costs do not include the cost of particulate pre-control required to avoid fouling the oxidizer with the sticky, resin coated particulate. These limits apply to the total emissions from the press and board cooler.

Process/Pollutant Information

PROCESS NAME: EUCOOLING in FGPRESSCOOL

Process Type: 30.590 (Miscellaneous Particle & Strand Board Operations)

Primary Fuel:

Throughput: 0

Process Notes: Board cooling system equipped with a wet scrubber (WS01) to control particle emissions. The press system and board cooling systems share an exhaust due to the use of a single enclosure to comply with the PCWP MACT.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.8500 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 12.5000 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 3 emission limits: Emission limit 3 = 0.042 lb/1000 sq.ft., 3/4 inch basis. The lowest estimated cost was $35,000/ton for catalytic regenerative oxidation to control 12.5 tpy CO. All other costs for other control options were higher. CO BACT was determined to be good design and operation practices with an emission limit of 2.85 lb/hr, 12.5 tpy, and 0.042 lb/1000 sq.ft. 3/4 inch basis. These limits apply to the total emissions from the press and board cooler.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 2.5000 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 11.0000 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 3 emission limits: Emission Limit 3 = 0.04 lb/1000 sq.ft., 3/4 inch basis. There is no combustion associated with the press, but there are NOx emission factors. All control options would be for combustion controls. There is no NOx emitted from the board cooling system. These limits apply to the total emissions from the press and board cooler.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 12.2000 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Wet scrubber

Est. % Efficiency: 90.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Wet scrubber 70 to 90+% efficient for filterable PM. These limits apply to the total emissions from the press and board cooler.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.2000 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Wet scrubber
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Wet scrubber 50 to 90% efficient for condensable PM and 84 to 90% efficient for filterable PM10. These limits apply to the total emissions from the press and board cooler.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.2000 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Wet scrubber
Est. % Efficiency: 90.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Wet scrubber 50 to 90% efficient for condensable PM and 84 to 90% efficient for filterable PM10. These limits apply to the total emissions from the press and board cooler.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC

Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 49.5000 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 216.8000 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good design and operation practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: There are 3 emission limits: Emission Limit 3 = 0.728 lb/1000 sq.ft. 3/4 inch basis. The lowest estimated cost was $10,130/ton for catalytic regenerative oxidation to control the 216.8 tpy VOC. All other costs for other control options were higher. When considering CO control as well as VOC, catalytic regenerative oxidation cost is $14,000/ton. Add on control is not cost effective. Note these costs do not include the cost of particulate pre-control required to avoid fouling the oxidizer with the sticky, resin coated particulate. These limits apply to the total emissions from the press and board cooler.

Process/Pollutant Information

PROCESS NAME: EUTOH in FGTOH
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural gas
Throughput: 38.00 MMBTU/H
Process Notes: One natural gas-fired thermal oil heater for press and sifter rated at 38 MMBTU/hr fuel heat input (EUTOH in FGTOH). Also falls under the RBLC Process Type Code 30.590.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0820 LB/MMBTU TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 13.7100 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The lowest estimated cost for the press/sifter thermal oil heater was $23,000/ton for an oxidation catalyst to control 12.3 tpy CO. This is not a reasonable cost. The small increase in heat input capacity (4 MMBTU/HR) does not make add on control cost effective.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0500 LB/MMBTU TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 8.1600 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good design and combustion practices, Low NOx burners.

Est. % Efficiency: 50.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The company conducted a cost analysis for SCR for the press/sifter thermal oil heater. The results show that SCR is not economically feasible, with a cost of $27,000/ton. The small increase in heat input capacity (4 MMBTU/HR) does not make add on control cost effective.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 1.2000 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No add on control identified.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0005 LB/MMBTU TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0800 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No add on control identified.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0004 LB/MMBTU TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0700 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No add on control identified.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0054 LB/MMBTU TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.9000 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good design and operating/combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The control options were not economically feasible. The lowest estimated cost was $389,000/ton for thermal regenerative oxidation to control 0.8 tpy VOC. All other costs for other control options were higher. The small increase in heat input capacity (4 MMBTU/HR) does not make add on control cost effective.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e

Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 19490.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion and maintenance practices, natural gas only.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control cost for carbon capture and sequestration determined to be $102/ton, which is not cost effective. This cost is based on controlling the total GHG emissions from the facility. The small increase in heat input capacity (4 MMBTU/HR) does not make add on control cost effective.

Process/Pollutant Information

PROCESS NAME: EUFLTOS1 in FGTOH
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural gas
Throughput: 10.20 MMBTU/H
Process Notes: One natural gas-fired thermal oil system for thermally fused lamination lines rated at 10.2 MMBTU/H fuel heat input (EUFLTOS1 in FGTOH). Note: The throughput capacity, 10.2 MMBTU/H, is not a change but instead a correction from the previous entry. The previous entry is under MI-0421 for the original permit.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0820 LB/MMBTU TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 3.6900 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The lowest estimated cost for the press/sifter thermal oil heater was $23,000/ton for an oxidation catalyst to control 12.3 tpy CO. Given this high cost, controlling the thermally fused lamination line thermal oil heater would also not result in a reasonable control cost.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0500 LB/MMBTU TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 2.2000 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Good design and combustion practices, low NOx burners.

Est. % Efficiency: 50.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: SCR is not economically feasible for the press/sifter thermal oil heater, with a cost of $27,000 per ton. Given this high cost for the larger heater, SCR would also not be cost effective for the smaller heater.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MMBTU TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 0.3300 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No add on control identified.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0005 LB/MMBTU TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0200 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No add on control identified.

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0004 LB/MMBTU TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 0.0200 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No add on control identified.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0054 LB/MMBTU TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.2400 T/YR 12-MO ROLLING TIME PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good design and operating/combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The control options were not economically feasible. The lowest estimated cost was $389,000/ton for thermal regenerative oxidation to control 0.8 tpy VOC from the press/sifter thermal oil heater. All other costs for other control options were higher. Given this high cost, control would not be cost effective for the smaller heater.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 5254.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion and maintenance practices, natural gas only.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control cost for carbon capture and sequestration determined to be $102 per ton, which is not cost effective. This cost is based on controlling the total GHG emissions from the facility.

Process/Pollutant Information

PROCESS NAME: EUFCOS in FGFINISH
Process Type: 30.540 (Board Product Finishing. (e.g. sanders, saws and trimmers))
Primary Fuel:
Throughput: 0
Process Notes: One flying cutoff saw (EUFCOS in FGFINISH) controlled by baghouse BH17.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5500 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5500 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Baghouse/Fabric filter
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5500 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.4000 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good design and operation practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The company determined that add-on control would not be cost effective; cost of control for other small VOC sources; the lowest cost estimate was $16,000 per ton for a source with a higher emission limit (EUPTL1, 4.3 lb/hr).

Process/Pollutant Information

PROCESS NAME: EUSANDING in FGFINISH
Process Type: 30.540 (Board Product Finishing. (e.g. sanders, saws and trimmers))
Primary Fuel:
Throughput: 0
Process Notes: Sanding operations (EUSANDING in FGFINISH) controlled by baghouse BH18.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.4300 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (A) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.4300 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Baghouse/fabric filter
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.4300 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 3.3200 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good design and operation practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The company has determined that add-on control would not be cost effective; cost of control for other small VOC sources; the lowest cost estimate was $16,000 per ton for a source with a higher emission limit (EUPTL1, 4.3 lb/hr).

Process/Pollutant Information

PROCESS NAME: EUCTPSAW in FGFINISH

Process Type: 30.540 (Board Product Finishing. (e.g. sanders, saws and trimmers))

Primary Fuel:

Throughput: 0

Process Notes: One cut to panel saw line (EUCTPSAW in FGFINISH) controlled by baghouse BH19.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4400 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Baghouse/fabric filter

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.4400 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (B) Baghouse/fabric filter
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.4400 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.4000 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) Good design and operation practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The company has determined that add-on control would not be cost effective; cost of control for other small VOC sources; the lowest cost estimate was $16,000/ton for a source with a higher emission limit (EUPTL1, 4.3 lb/hr).

Process/Pollutant Information

PROCESS NAME: EURMSILO in FGFINISH (Raw material sawdust silo)
Process Type: 30.540 (Board Product Finishing. (e.g. sanders, saws and trimmers))
Primary Fuel:
Throughput: 0
Process Notes: Conveyance of material from material reject and board making to Raw Material Sawdust Silo (EURMSILO in FGFINISH). Emissions are controlled by baghouse BH14A.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.0020 GR/DSCF TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No

Pollutant/Compliance Notes: Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.5400 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good design and operation practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The company has determined that add-on control would not be cost effective; cost of control for other small VOC sources; the lowest cost estimate was $16,000 per ton for a source with a higher emission limit (EUPTL1, 4.3 lb/hr).

Process/Pollutant Information

PROCESS NAME: EUPTL1 & EUPTL2 in FGPTL (2 paper treating lines)

Process Type: 30.540 (Board Product Finishing. (e.g. sanders, saws and trimmers))

Primary Fuel: Natural gas

Throughput: 3.40 MMBTU/H

Process Notes: Two paper treating lines (EUPTL1 & EUPTL2 in FGPTL). Each line has a 3.4 MMBTU/H natural gas dryer and a monthly material limit for HAP content of each coating, limiting the HAP content to 1.6% by weight of coating material or 8% by weight of coating solids.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0820 LB/MMBTU EACH NG DRYER W/ EACH EMISSION UNIT
Emission Limit 2: 1.2300 T/YR 12-MO ROLLING TIME PERIOD; EACH DRYER
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good design and operation.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limits above are for each natural gas (NG) dryer with each emission unit. Oxidation catalyst cost estimated at $176,000 per ton which is not cost effective. All other control options have higher costs.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0500 LB/MMBTU EACH NG DRYER W/ EACH EMISSION UNIT
Emission Limit 2: 0.7300 T/YR 12-MO ROLLING TIME PERIOD; EACH DRYER
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Good design and combustion practices, low NOx burners.
Est. % Efficiency: 50.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limits above are for each natural gas (NG) dryer with each emission unit. The temperature of the dryer exhaust would be approximately 176 deg. F, well below the 480 to 800 deg. F required for SCR control and the 600 to 2100 deg. F required for SNCR. Water/steam injection would not be feasible because the purpose of the dryers is to dry the treated paper.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU EACH NG DRYER W/ EACH EMISSION UNIT
Emission Limit 2: 0.1100 T/YR 12-MO ROLLING TIME PERIOD; EACH DRYER
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Each emission limit above is for each natural gas (NG) dryer with each emission unit. No add-on control identified.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0005 LB/MMBTU EACH NG DRYER WITH EACH EMISSION UNIT
Emission Limit 2: 0.0100 T/YR 12-MO ROLLING TIME PERIOD; EACH DRYER
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limits above are for each natural gas (NG) dryer with each emission unit. No add-on control identified.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0004 LB/MMBTU EACH NG DRYER WITH EACH EMISSION UNIT

Emission Limit 2: 0.0100 T/YR 12-MO ROLLING TIME PERIOD; EACH DRYER

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limits above are for each natural gas (NG) dryer with each emission unit. No add-on control identified.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.3000 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 19.0000 T/YR 12-MO ROLLING TIME PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NESHAP , MACT , SIP

Control Method: (P) Good design and operating practices and low VOC coatings.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limits apply to each emission unit. The control options were not economically feasible. The lowest estimated cost was $16,000/ton for thermal regenerative oxidation. All other costs for other control options were higher. Note this cost is for controlling only a single line, as the company plans to install only a single line initially.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 3502.0000 T/YR 12-MO ROLLING TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion and maintenance practices, natural gas only.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Control cost for carbon capture and sequestration determined to be $102 per ton, which is not cost effective. This cost is based on controlling the total GHG emissions from the facility.

Process/Pollutant Information

PROCESS NAME: EUTFL1, EUTFL2 & EUTFL3 in FGTFL (3 Thermally Fused Lamination Lines)

Process Type: 30.540 (Board Product Finishing. (e.g. sanders, saws and trimmers))

Primary Fuel:

Throughput: 0

Process Notes: Three thermally fused lamination lines (EUTFL1, EUTFL2 & EUTFL3 in FGTFL). EUTFL1 controlled by baghouse BH28, EUTFL2 controlled by baghouse BH29, and EUTFL3 controlled by baghouse BH30.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3300 LB/H EACH EMISSION UNIT
Emission Limit 2: 1.4500 T/YR 12-MO ROLLING TIME PERIOD; EACH EM. UNIT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: There are 3 emission limits for PM, the third limit is: Emission Limit 3 = 0.002 GR/DSCF and applies to each emission unit.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3300 LB/H EACH EMISSION UNIT
Emission Limit 2: 1.4500 T/YR 12-MO ROLLING TIME PERIOD; EACH EM. UNIT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filter
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Limits apply to each emission unit. Control efficiency 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3300 LB/H EACH EMISSION UNIT
Emission Limit 2: 1.4500 T/YR 12-MO ROLLING TIME PERIOD; EACH EM. UNIT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (B) Baghouse/fabric filters
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Limits apply to each emission unit. Control efficient 0 to 50% for condensable particulate matter, 99+% for filterable particulate matter.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0500 LB/H EACH EMISSION UNIT
Emission Limit 2: 0.2400 T/YR 12-MO ROLLING TIME PERIOD; EACH EM. UNIT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good design and operation practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The lowest estimated cost was $1,872,000/ton for thermal regenerative oxidation to control 0.24 tpy VOC from one of the stacks. All costs for other control options for each stack were higher. Given this very high cost, combining the three stacks together would not result in a reasonable control cost.

Process/Pollutant Information

PROCESS NAME: EUEMRGRICE1 in FGRICE (Emergency diesel generator engine)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel

Throughput: 500.00 H/YR

Process Notes: One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE1 in FGRICE).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 3.5000 G/KW-H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 11.6000 LB/H TEST PROTOCOL SHALL SPECIFY

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good design and combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The company concluded that an oxidation catalyst would not be economically feasible, with an estimated cost of $71,000/ton.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 21.2000 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Certified engines, limited operating hours.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Based on the limited hours of operation, the company concluded that add-on control would not be cost effective.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.2000 G/KW-H TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.6600 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 209.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion and design practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The hours of operation are limited to 500 hours per year for the emergency generator engine. Based on the limited operation, add on control would not be cost effective.

Process/Pollutant Information

PROCESS NAME: EUEMRGRICE2 in FGRICE (Emergency Diesel Generator Engine)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel

Throughput: 500.00 H/YR

Process Notes: One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE2 in FGRICE).

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 3.5000 G/KW-H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 3.9000 LB/H TEST PROTOCOL SHALL SPECIFY

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good design and combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The company concluded that an oxidation catalyst would not be economically feasible, with an estimated cost of $71,000/ton.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 4.4000 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Certified engines, limited operating hours

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Based on the limited hours of operation, the company concluded that add-on control would not be cost effective.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2200 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 0.2000 G/KW-H TEST PROTOCOL SHALL SPECIFY

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2200 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2200 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 70.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion and design practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The hours of operation are limited to 500 hours per year for the emergency generator engine. Based on the limited operation, add on control would not be cost effective.

Process/Pollutant Information

PROCESS NAME: EUFIREPUMP in FGRICE (Diesel fire pump engine)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 500.00 H/YR
Process Notes: One diesel fire pump engine rated at 400 KW (EUFIREPUMP in FGRICE).

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2: 3.0900 LB/H TEST PROTOCOL SHALL SPECIFY

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good design and combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The company concluded that an oxidation catalyst would not be economically feasible, with an estimated cost of $71,000/ton for the larger emergency generator engine.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 3.5300 LB/H TEST PROTOCOL SHALL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Certified engines. Limited operating hours.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Based on the limited hours of operation, the company concluded that add-on control would not be cost effective.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1800 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2: 0.2000 G/KW-H TEST PROTOCOL SHALL SPECIFY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1800 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1800 LB/H TEST PROTOCOL SHALL SPECIFY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No technically feasible add on control identified.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 56.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion and design practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The hours of operation are limited to 500 hours per year for the fire pump engine. Based on the limited operation, add on control would not be cost effective.

Facility Information

RBLC ID:	OH-0368 (final)	**Date Determination**	
		Last Updated:	06/19/2019
Corporate/Company Name:	PALLAS NITROGEN LLC	**Permit Number:**	P0118959
Facility Name:	PALLAS NITROGEN LLC	**Permit Date:**	04/19/2017 (actual)
Facility Contact:	STEVE DOPUCH (440)867-5424 SDOPUCH@GMAIL.COM	**FRS Number:**	Not Found
Facility Description:	Natural gas-based facility for the manufacture of nitrogenous products.	**SIC Code:**	2873
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	325311
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	COLUMBIANA		
Facility State:	OH		
Facility ZIP Code:	43958		
Permit Issued By:	OHIO ENVIRONMENTAL PROTECTION AGENCY (Agency Name) MICHAEL MALESKI(Agency Contact) (614) 644-3613 Michael.Maleski@epa.ohio.gov		
Permit Notes:	Natural gas-based facility for the manufacture of nitrogenous products.		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	154.3000 (Tons/Year)
Nitrogen Oxides (NOx)	130.3000 (Tons/Year)
Particulate Matter (PM)	64.9000 (Tons/Year)
Sulfur Oxides (SOx)	3.3000 (Tons/Year)
Volatile Organic Compounds (VOC)	150.4000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	Startup Heater (B001)
Process Type:	13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel:	Natural gas
Throughput:	100.00 MMBTU/H
Process Notes:	100 mmBtu/hr Startup Heater

POLLUTANT NAME:	Carbon Monoxide
CAS Number:	630-08-0
Test Method:	EPA/OAR Mthd 10
Pollutant Group(s):	(InOrganic Compounds)
Emission Limit 1:	8.2400 LB/H

Emission Limit 2: 1.9800 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0824 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 10.0000 LB/H

Emission Limit 2: 2.4000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.1000 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7500 LB/H
Emission Limit 2: 0.1800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0075 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 μ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.7500 LB/H
Emission Limit 2: 0.1800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0075 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: EPA/OAR Mthd 25
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.5400 LB/H
Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0054 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 2840.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Primary Reformer Heater (B002)

Process Type: 11.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 740.00 MMBTU/H

Process Notes: 740 mmBtu/hr Primary Reformer Heater with selective non-catalytic reduction (SNCR)

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 14.4000 LB/H

Emission Limit 2: 62.9000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0194 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and good air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 9.2500 LB/H PER 30 DAY ROLLING AVERAGE. SEE NOTES.

Emission Limit 2: 42.4000 T/YR PER ROLLING 12 MONTH PERIOD. SEE NOTES.

Standard Emission: 0.0125 LB/MMBTU SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) SNCR and low NOx burners

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0125 lb/MMBtu heat input (HHV), based on a daily rolling 30-day average, excluding periods of startup and shutdown. 9.25 lbs/hr, based on a daily rolling 30-day average, excluding periods of startup and shutdown and 42.4 tons per rolling, 12-month period. 0.13 lb/mmBtu of heat input (HHV), 96.2 lbs/hr, and 2.31 tons per rolling, 12-month period during periods of startup and shutdown.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.6000 LB/H

Emission Limit 2: 24.2000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0075 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and good air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.6000 LB/H

Emission Limit 2: 24.2000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0075 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and good air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 4.0000 LB/H
Emission Limit 2: 17.5000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0054 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and good air/fuel mixing)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 383584.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) use of low-carbon fuels (natural gas and/or tail gas) and periodic burner tuning and heater inspection.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and good air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Package Boilers (2 identical, B003 and B004)

Process Type: 11.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: Natural gas

Throughput: 265.00 MMBTU/H

Process Notes: 265 mmBtu/hr Package Boilers #1 and #2 (B003 and B004). All limits and throughputs are for an individual boiler unless otherwise noted.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 4.0000 LB/H

Emission Limit 2: 17.4000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0150 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 3.3000 LB/H
Emission Limit 2: 14.5000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0125 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) Low NOx burners and flu gas recirculation (FGR)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2.0000 LB/H
Emission Limit 2: 8.6000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: 0.0075 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 2.0000 LB/H

Emission Limit 2: 8.6000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0075 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 1.4300 LB/H

Emission Limit 2: 6.3000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 0.0054 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Other

Other Test Method: Method 3A for CO2

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 137364.0000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) thermal efficiency of 80%, based on HHV in addition to good design, good combustion practices, and energy efficient operation.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion control (i.e., high temperatures, sufficient excess air, sufficient residence times, and god air/fuel mixing)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Paved Roadways (F001)
Process Type: 99.140 (Paved Roads)
Primary Fuel:
Throughput: 70000.00 MI/YR
Process Notes: Paved roads

POLLUTANT NAME: Particulate matter, fugitive
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1: 13.2000 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP

Control Method: (A) i. Paving of all plant roads that will be used for raw material and product transport; ii. Covering, at all times, of open-bodied vehicles when transporting materials likely to become airborne; and iii. Compliance with the opacity limits. Specifically, additional mitigation measures potentially including road sweeping or wet suppression will be implemented on an as-needed basis determined through visual observation of emissions associated with truck movements on the plant site.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 2.6000 T/YR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) i. Paving of all plant roads that will be used for raw material and product transport; ii. Covering, at all times, of open-bodied vehicles when transporting materials likely to become airborne; and iii. Compliance with the opacity limits. Specifically, additional mitigation measures potentially including road sweeping or wet suppression will be implemented on an as-needed basis determined through visual observation of emissions associated with truck movements on the plant site.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1: SEE NOTES.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) i. Paving of all plant roads that will be used for raw material and product transport; ii. Covering, at all times, of open-bodied vehicles when transporting materials likely to become airborne; and iii. Compliance with the opacity limits. Specifically, additional mitigation measures potentially including road sweeping or wet suppression will be implemented on an as-needed basis determined through visual observation of emissions associated with truck movements on the plant site.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: No visible PE from paved roadways and parking areas except for a period of time not to exceed one minute during any 60-minute observation period.

Process/Pollutant Information

PROCESS NAME: Amine Regenerator (MDEA Stripper) (P001)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 73.50 T/H

Process Notes: The maximum NH3 production shall not exceed the following: 73.5 T/H, 1764 T/D and 643,860 tons per rolling, 12-month period.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 1.5000 LB/H

Emission Limit 2: 6.4000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (B) proper equipment design, operation and the use of a wet scrubber
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.02 lb/t of ammonia produced

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 4.3000 LB/H
Emission Limit 2: 18.7000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) proper equipment design, operation and the use of a wet scrubber
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.058 lb/ton ammonia produced

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Other
Other Test Method: Method 3A for CO2
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 785509.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) use of low-carbon fuels (natural gas and/or tail gas) and periodic burner tuning and heater inspection.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Ammonium Nitrate Plant Process (P002)
Process Type: 61.012 (Fertilizer Production (except 61.009))
Primary Fuel:
Throughput: 12.50 T/H
Process Notes: Ammonium Nitrate Process with Wet Scrubber. Listed throughput is for ammonia production.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 LB/H
Emission Limit 2: 0.7000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) wet scrubber
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.0128 lb/ton ammonium nitrate

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Other

Other Test Method: Methods 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 LB/H

Emission Limit 2: 0.7000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) wet scrubber

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.0128 lb/ton ammonium nitrate

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Wet scrubber

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 5 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Back-End Process with flare (P003)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 150.00 MMBTU/H

Process Notes: Back-End Process Flare (emissions from non-routine releases from the amine regeneration and MDEA storage system) - the pilot flare has a maximum heat input of 0.9 mmBtu/hr (operates 8,760 hours per year) and the flare has a maximum heat input of 150 mmBtu/hr.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 46.5700 LB/H

Emission Limit 2: 22.6000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.31 lb/mmBtu of heat input

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 10.3700 LB/H

Emission Limit 2: 5.6000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.068 lb/mmBtu of heat input

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 4.0600 LB/H

Emission Limit 2: 1.9700 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.027 lb/mmBtu of heat input

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 4.0600 LB/H

Emission Limit 2: 1.9700 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.027 lb/mmBtu of heat input

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 85.5000 LB/H

Emission Limit 2: 41.1000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events. This emissions unit shall be equipped with a flare to control OC emissions. The flare shall be fired with natural gas and shall be operated with at least 98% control efficiency.

Est. % Efficiency: 98.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.57 lb/mmBtu of heat input

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 714.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good operational practices and energy efficient operation through a Minimization Plan and operation and maintenance in accordance with manufacturer recommendations.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Ammonia Synthesis Process with flare (P004)
Process Type: 61.012 (Fertilizer Production (except 61.009))
Primary Fuel:
Throughput: 150.00 MMBTU/H
Process Notes: Ammonia Synthesis Process with flare - the pilot flare has a maximum heat input of 0.9 mmBtu/hr (operates 8,760 hours per year) and the flare has a maximum heat input of 150 mmBtu/hr.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 46.5700 LB/H
Emission Limit 2: 22.6000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.31 lb/mmBtu of heat input

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 12.4400 LB/H

Emission Limit 2: 6.6000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.068 lb/mmBtu of heat input

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 4.0600 LB/H

Emission Limit 2: 1.9700 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.027 lb/mmBtu of heat input

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 4.0600 LB/H

Emission Limit 2: 1.9700 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.027 lb/mmBtu of heat input

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 85.5000 LB/H

Emission Limit 2: 41.1000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) utilizing a flare with good combustion practices, natural gas to fuel pilots, and venting flare during only start-up, shutdown and malfunction events. This emissions unit shall be equipped with a flare to control OC emissions. The flare shall be fired with natural gas and shall be operated with at least 98% control efficiency.

Est. % Efficiency: 98.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.57 lb/mmBtu of heat input

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 714.0000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good operational practices and energy efficient operation through a Minimization Plan and operation and maintenance in accordance with manufacturer recommendations

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Nitric Acid Process (P005)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 482.00 T/D

Process Notes: Nitric Acid Process with selective catalytic reduction (SCR). Nitric acid HNO3 production shall not exceed 482 tons per day and 175,820 tons per year.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 10.0000 LB/H

Emission Limit 2: 44.0000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) selective catalytic reduction (SCR)

Est. % Efficiency: 98.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 0.5 lb/ton of nitric acid produced

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 43425.0000 T/YR PER ROLLING 12 MONTH PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) catalytic decomposition reducing N2O by 98% control efficiency

Est. % Efficiency: 98.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Urea Granulation Process (P006)
Process Type: 61.012 (Fertilizer Production (except 61.009))
Primary Fuel:
Throughput: 384.00 T/D
Process Notes: Urea Granulation Process with Wet Scrubber. Maximum granulated urea produced by this emissions unit shall not exceed 384 tons per day and 140,160 tons per year.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.7600 LB/H
Emission Limit 2: 7.7100 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) wet scrubber
Est. % Efficiency: 80.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.11 lb/ton of Granulated Urea

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.7600 LB/H
Emission Limit 2: 7.7100 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet scrubber
Est. % Efficiency: 80.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.11 lb/ton of Granulated Urea

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.3000 LB/H
Emission Limit 2: 1.2000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet scrubber
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.017 lb/ton Granulated Urea produced

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Wet scrubber

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 5 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Urea Synthesis (Melt) (P007)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 384.00 T/D

Process Notes: Urea Synthesis (Melt) with Wet Scrubber. Maximum granulated urea produced by this emissions unit shall not exceed 384 tons per day and 140,160 tons per year.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A and 202

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0640 LB/H

Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) wet scrubber
Est. % Efficiency: 80.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.004 lb/ton of Granulated Urea

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Methods 201A and 202
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0640 LB/H
Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet scrubber
Est. % Efficiency: 80.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 0.004 lb/ton of Granulated Urea

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 128.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:

Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) use of low-carbon fuels (natural gas and/or tail gas) and periodic burner tuning and heater inspection
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 5.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Wet scrubber
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 5 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Emergency Fire Pump Diesel Engine (P008)
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel fuel

Throughput: 460.00 HP

Process Notes: 460 HP - 343 kW Emergency Fire Pump Diesel Engine

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 2.6000 LB/H

Emission Limit 2: 0.1300 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/B-HP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr).

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.3000 LB/H

Emission Limit 2: 0.0200 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 0.4 g/kW-hr. NSPS: Non-methane hydrocarbon (NMHC) + NOx emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0200 LB/H

Emission Limit 2: 0.0010 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 0.02 g/kW-hr. NSPS limit is 0.20 g/kW-hr (0.15 g/hp-hr)

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.1400 LB/H

Emission Limit 2: 0.0070 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.19 g/kW-hr. NMHC + NOx emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 123.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0200 LB/H

Emission Limit 2: 0.0010 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 0.02 g/kW-hr. NSPS limit is 0.20 g/kW-hr (0.15 g/hp-hr)

Process/Pollutant Information

PROCESS NAME: Emergency Generator (P009)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel fuel

Throughput: 5000.00 HP

Process Notes: 5,000 HP – 3,729 kW Emergency Generator Diesel Engine

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 28.8000 LB/H

Emission Limit 2: 1.4000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: 2.6000 G/B-HP-H SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit is 3.5 g/kW-hr (2.6 g/hp-hr)

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 5.5000 LB/H

Emission Limit 2: 0.3000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 0.67 g/kW-hr. NSPS limit is NMHC + NOx emissions shall not exceed 6.4 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 LB/H

Emission Limit 2: 0.0100 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Standard limit (metric) is 0.03 g/kW-hr. NSPS limit is 0.2 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.2000 LB/H

Emission Limit 2: 0.0100 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission: SEE NOTES

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.03 g/kW-hr. NSPS limit is 0.2 g/kW-hr (0.15 g/hp-hr).

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.6000 LB/H
Emission Limit 2: 0.0800 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission: SEE NOTES
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Standard limit (metric) is 0.19 g/kW-hr. NSPS limit is NMHC + NOx emissions shall not exceed 6.4 g/kW-hr (3.0 g/hp-hr).

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 1289.0000 T/YR PER ROLLING 12 MONTH PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)
CAS Number: VE
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1:
Emission Limit 2:
Standard Emission: 20.0000 % OPACITY AS A 6 MINUTE AVERAGE. SEE NOTE
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Control Method: (P) good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: 20 percent opacity as a 6-minute average, except as specified by rule.

Process/Pollutant Information

PROCESS NAME: Cooling Towers #1 & #2 (P010 & P011)
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel:
Throughput: 79800.00 GAL/M
Process Notes: Two identical 5 Cell Process Cooling Water Towers #1 and #2 with Drift Eliminators. Throughputs and limits are for one cooling tower, except as noted.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3000 LB/H
Emission Limit 2: 1.3000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) drift eliminators with a maximum drift rate specification of 0.0005 percent or less and total dissolved solids (TDS) concentration of the cooling water less than or equal to 5,000 milligrams per liter (mg/l)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0018 LB/H
Emission Limit 2: 0.0100 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (B) drift eliminators with a maximum drift rate specification of 0.0005 percent or less and total dissolved solids (TDS) concentration of the cooling water less than or equal to 5,000 milligrams per liter (mg/l)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminators with a maximum drift rate specification of 0.0005 percent or less and total dissolved solids (TDS) concentration of the cooling water less than or equal to 5,000 milligrams per liter (mg/l)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Wastewater Treatment Plant Cooling Water Tower (P012)

Process Type: 99.009 (Industrial Process Cooling Towers)

Primary Fuel:

Throughput: 1000.00 GAL/M

Process Notes: Wastewater Treatment Plant Cooling Water Tower

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 5.0000 X10-4 LB/H

Emission Limit 2: 2.1000 X10-3 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminators with a maximum drift rate specification of 0.0005 percent or less and total dissolved solids (TDS) concentration of the cooling water less than or equal to 50,000 milligrams per liter (mg/l)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Visible Emissions (VE)

CAS Number: VE

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1:

Emission Limit 2:

Standard Emission: 10.0000 % OPACITY AS A 6 MINUTE AVERAGE

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) drift eliminators with a maximum drift rate specification of 0.0005 percent or less and total dissolved solids (TDS) concentration of the cooling water less than or equal to 50,000 milligrams per liter (mg/l)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Urea Process Equipment Leaks (F004)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 0

Process Notes: Urea Plant Equipment Leaks

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 21

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.1000 LB/H

Emission Limit 2: 17.9000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Leak detection and repair (LDAR) and comply with work practice standards in 40 CFR 60.482-1a – 60.482-11a as applicable for all equipment in VOC service.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Granulated Urea Transfer Points with bin vents (P901)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 0

Process Notes: Urea Dome and Granulated Urea Transfer with bin vents

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) bin vent filters
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Ammonia Tanks (T005, T006, and T007)
Process Type: 61.012 (Fertilizer Production (except 61.009))
Primary Fuel:
Throughput: 3982773.00 GAL
Process Notes: Three identical 3,982,773 gallon Ammonia Tanks 1, 2 and 3 with flare. Throughputs and limits are for one tank, except as noted.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0400 LB/H
Emission Limit 2: 0.2000 T/YR PER ROLLING 12 MONTH PERIOD
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) flare to control ammonia emissions
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0200 LB/H

Emission Limit 2: 0.1000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) flare to control ammonia emissions

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Ammonium Nitrate Solution Tanks (T010 and T011)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 277021.00 GAL

Process Notes: Two identical 277,021 gallon Ammonium Nitrate Solution Tanks 1 and 2 with wet scrubber. Throughputs and limits are for one tank, except as noted.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0140 LB/H

Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Wet scrubber

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0140 LB/H

Emission Limit 2: 0.0600 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Wet scrubber

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Ammonia Day Tank (T018)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 295194.00 GAL

Process Notes: 295,194 gallon Ammonia Day Tank with flare

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0400 LB/H

Emission Limit 2: 0.2000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) flare to control ammonia emissions

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0200 LB/H

Emission Limit 2: 0.1000 T/YR PER ROLLING 12 MONTH PERIOD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) flare to control ammonia emissions

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	IN-0263 (final)	**Date Determination**	
		Last Updated:	08/22/2017
Corporate/Company Name:	MIDWEST FERTILIZER COMPANY LLC	**Permit Number:**	129-36943-00059
Facility Name:	MIDWEST FERTILIZER COMPANY LLC	**Permit Date:**	03/23/2017 (actual)
Facility Contact:	RON OGLESBY 9703057850	**FRS Number:**	110059696841
Facility Description:	STATIONARY NITROGEN FERTILIZER MANUFACTURING FACILITY	**SIC Code:**	2873
Permit Type:	C: Modify process at existing facility	**NAICS Code:**	325311
Permit URL:	HTTP:PERMITS.AIR.IDEM.IN.GOV/36943F.PDF		
EPA Region:	5	**COUNTRY:**	USA
Facility County:	POSEY		
Facility State:	IN		
Facility ZIP Code:	47620		
Permit Issued By:	INDIANA DEPT OF ENV MGMT, OFC OF AIR (Agency Name) MR. MATT STUCKEY(Agency Contact) (317) 233-0203 mstuckey@idem.in.gov		
Other Agency Contact Info:	PERMIT WRITER: DEENA P. LEVERING 317-234-5400 DLEVERIN@IDEM.IN.GOV SECTION CHIEF: TRIPURARI SINHA PH.D. 317-234-4907		
Permit Notes:			

Process/Pollutant Information

PROCESS NAME:	STARTUP HEATER EU-002
Process Type:	13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel:	NATURAL GAS
Throughput:	70.00 MMBTU/HR
Process Notes:	

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1300 LB/H 3HR AVERAGE
Emission Limit 2: 200.0000 H/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5220 LB/H 3HOUR AVERAGE
Emission Limit 2: 200.0000 H/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5220 LB/H 3 HOUR AVERAGE
Emission Limit 2: 200.0000 H/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 12.6110 LB/H 3 HOUR AVERAGE
Emission Limit 2: 200.0000 H/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.5560 LB/H 3 HOUR AVERAGE
Emission Limit 2: 200.0000 H/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.3780 LB/H 3 HOUR AVERAGE
Emission Limit 2: 200.0000 H/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Carbon Dioxide

CAS Number: 124-38-9
Test Method: Unspecified
Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)
Emission Limit 1: 8184.0000 LB/H 3 HOUR AVERAGE
Emission Limit 2: 200.0000 H/YR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES AND THE USE OF INLET AIR CONTROL SENSORS THAT LIMIT EXCESS AIR
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: SHALL COMBUST NATURAL GAS

Process/Pollutant Information

PROCESS NAME: UREA SYNTHESIS PLANT (EU-006)
Process Type: 61.012 (Fertilizer Production (except 61.009))
Primary Fuel:
Throughput: 2640.00 METRIC TON/DAY
Process Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) GOOD OPERATIONAL PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: OTHER
Control Method: (P) GOOD OPERATIONAL PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Basis is State VOC BACT (326 IAC 8-1-6)

POLLUTANT NAME: Carbon Dioxide
CAS Number: 124-38-9
Test Method: Unspecified
Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)
Emission Limit 1: 387.0000 T/YR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: Unknown
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (P) GOOD OPERATIONAL PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: UREA AMMONIUM NITRATE PLANT (EU-007)
Process Type: 61.012 (Fertilizer Production (except 61.009))
Primary Fuel:
Throughput: 5160.00 METRIC TON/DAY
Process Notes:

POLLUTANT NAME: Carbon Dioxide
CAS Number: 124-38-9
Test Method: Unspecified
Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)
Emission Limit 1: 1173.0000 TONS/12 MONTH ROLLING AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD OPERATIONAL PRACTICES AND EFFICIENT DESIGN
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: UREA GRANULATION UNIT (EU-008)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 1320.00 METRIC TON/DAY

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1630 LB/TON 3HOUR AVERAGE

Emission Limit 2: 368040.0000 TON/12 CONSEC. MONTH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) WET SCRUBBER

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1630 LB/TON 3 HOUR AVERAGE

Emission Limit 2: 368040.0000 TON/12 CONSEC. MONTH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (A) WET SCRUBBER
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1630 LB/TON 3 HOUR AVERAGE
Emission Limit 2: 368040.0000 TON/12 CONSEC. MONTH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) WET SCRUBBER
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: NITRIC ACID PLANT (EU-009)
Process Type: 62.014 (Nitric Acid Plants)
Primary Fuel:
Throughput: 1840.00 METRIC TON/DAY
Process Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.1780 LB/TON NORMAL OPERATIONS
Emission Limit 2: 0.0830 TON/EVENT 4 EVENTS/YR, 3HR/EVENT DURING STARTUP
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD PROCESS DESGIN AND CONTROL
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EIGHTEEN CELL COOLING TOWER (EU-010)
Process Type: 99.999 (Other Miscellaneous Sources)
Primary Fuel:
Throughput: 0
Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2000.0000 MG/L AVG ON A MONTHLY BASIS
Emission Limit 2: 0.0005 % DRIFT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) HIGH EFFICIENCY DRIFT ELIMINATORS
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2000.0000 MG/L AVG. ON A MONTHLY BASIS
Emission Limit 2: 0.0005 % DRIFT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) HIGH EFFICIENCY DRIFT ELIMINATORS
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 2000.0000 MG/L AVG. ON A MONTHLY BASIS
Emission Limit 2: 0.0005 % DRIFT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) HIGH EFFICIENCY DRIFT ELIMINATORS
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: NATURAL GAS AUXILIARY BOILERS (EU-012A, EU-012B, EU-012C)
Process Type: 12.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: NATURAL GAS
Throughput: 218.60 MMBTU/H
Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.9000 LB/MMCF EACH 3 HOUR AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) PROPER DESIGN AND GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN OPERATION.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: LIMIT 2: SHALL COMBUST NATURAL GAS LIMIT 3: EACH SHALL NOT EXCEED 1,877.39 MMCF PER 12 CONSECUTIVE MONTH PERIOD

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 7.6000 LB/MMCF EACH 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) PROPER DESIGN AND GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN OPERATION.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 2:SHALL COMBUST NATURAL GAS LIMIT 3: EACH SHALL NOT EXCEED 1877.39 MMCF/ 12 MONTH CONSECUTIVE PERIOD

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 7.6000 LB/MMCF EACH 3 HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) PROPER DESIGN AND GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN OPERATION.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 2: SHALL COMBUST NATURAL GAS LIMIT 3: EACH SHALL NOT EXCEED 1877.39 MMCF/ 12 CONSECUTIVE MONTH PERIOD

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 20.4000 LB/MMCF EACH 3 HOUR AVERAGE

Emission Limit 2: 1877.3900 MMCF/12 MONTH EACH ROLLING AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) LOW NOX BURNERS WITH FLUE GAS RECIRCULATION AND GOOD COMBUSTION PRACTICES

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 37.2200 LB/MMCF EACH 3 HOUR AVERAGE

Emission Limit 2: 1877.3900 MMCF/12 MONTH EACH ROLLING AVERAGE

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN OPERATION

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: LIMIT 3: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 5.5000 LB/MMCF EACH 3 HOUR AVERAGE
Emission Limit 2: 1877.3900 MMCF/12 MONTH EACH ROLLING AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN OPERATION
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: LIMIT 3: SHALL COMBUST NATURAL GAS

POLLUTANT NAME: Carbon Dioxide
CAS Number: 124-38-9
Test Method: Unspecified
Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)
Emission Limit 1: 59.6100 TON/MMCF EACH 3 HOUR AVERAGE
Emission Limit 2: 1877.3900 MMCF/12 MONTH EACH ROLLING AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN OPERATION.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: SHALL COMBUST NATURAL GAS LIMIT 4: EACH SHALL BE DESIGNED TO ACHIEVE A MINIMUM 80% THERMAL EFFICIENCY LIMIT 5: EACH SHALL BE EQUIPPED WITH THE FOLLOWING ENERGY EFFICIENCY DESIGN FEATURES (1) AIR INLET CONTROLS, (2) HEAT RECOVERY, (3) CONDENSATE RECOVERY, (4) BLOW DOWN HEAT RECOVERY

Process/Pollutant Information

PROCESS NAME: EMERGENCY GENERATORS (EU014A AND EU-014B)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: DISTILLATE OIL

Throughput: 3600.00 HP EACH

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 G/HP-H EACH 3 HOUR AVERAGE

Emission Limit 2: 500.0000 H/YR EACH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) GOOD COMBUSTION PRACTICES

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/HP-H EACH 3 HOUR AVERAGE
Emission Limit 2: 500.0000 H/YR EACH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.1500 G/HP-H EACH 3 HOUR AVERAGE
Emission Limit 2: 500.0000 H/YR EACH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 4.4200 G/HP-H EACH 3 HOUR AVERAGE
Emission Limit 2: 500.0000 H/YR EACH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6100 G/HP-H EACH 3 HOUR AVERAGE
Emission Limit 2: 500.0000 H/YR EACH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.3500 G/HP-H EACH 3 HOUR AVERAGE
Emission Limit 2: 500.0000 H/YR EACH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide
CAS Number: 124-38-9
Test Method: Unspecified
Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)
Emission Limit 1: 1044.0000 TON/12 CONSEC. MONTH EACH
Emission Limit 2: 500.0000 H/YR EACH
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) GOOD COMBUSTION PRACTICES
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: AMMONIA STORAGE FLARE (EU-016)

Process Type: 19.390 (Other Flares)

Primary Fuel: NATURAL GAS

Throughput: 1.10 MMBTU/H

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MMBTU 3 HR AVG.

Emission Limit 2: 168.0000 H/12 CONSEC. MONTH COMPLIANCE DETERMINED AT END OF EA MONTH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: Unknown

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS SHALL BE NATURAL GAS LIMIT 4: SHALL COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUT DOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT THE PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) SHALL TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND TEH SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DURING ANY 2 CONSEC. HRS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMACOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0019 LB/MMBTU 3 HOUR AVERAGE

Emission Limit 2: 168.0000 H/12 CONSEC. MONTH COMPLIANCE DETERMINED AT END OF MONTHS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS SHALL BE NATURAL GAS LIMIT 4: SHALL COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUT DOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) SHALL TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO TDAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANE OF REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MINS DURING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMACOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MMBTU 3 HOUR AVERAGE

Emission Limit 2: 168.0000 H/12 CONSEC MONTH COMPLIANCE DETERMINED AT END OF MONTHS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS SHALL BE NATURAL GAS LIMIT 4: SHALL COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUT DOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) SHALL TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP AND SHUT DOWN. THIS ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DURING TWO CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 125.0000 LB/H WHILE VENTING 3 HOUR AVG.

Emission Limit 2: 0.0680 LB/MMBTU DURING NORMAL OP. 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: 168 HOURS / 12 CONSECUTIVE MONTH PERIOD LIMIT 5: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUT DOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUTDOWN. THIS ANALYSIS SHALL IDENTFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 6: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MINS DURING ANY 2 CONSEC. HRS.; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMACOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.3700 LB/MMBTU NORMAL OPERATION 3 HR AVG.

Emission Limit 2: 168.0000 H/YR VENTING COMPLIANCE DETERMINED AT END OF EA MONTH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: THE PILOT AND PURGE GAS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0054 LB/MMBTU NORMAL OPERATIONS 3 HR AVG.

Emission Limit 2: 168.0000 H/12 CONSEC. MONTH COMPLIANCE DETERMINED AT END OF EA MONTH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS

STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Carbon Dioxide

CAS Number: 124-38-9

Test Method: Unspecified

Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)

Emission Limit 1: 563.0000 TON/12 CONSEC. MONTH

Emission Limit 2: 168.0000 H/12 CONSEC. MONTH COMPLIANCE DETERMINED AT END OF EA MONTH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES;

SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

Process/Pollutant Information

PROCESS NAME: FRONT END FLARE EU-017

Process Type: 19.390 (Other Flares)

Primary Fuel: NATURAL GAS

Throughput: 1.12 MMBTU/H

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.9000 LB/MMCF 3 HR AVG.

Emission Limit 2: 336.0000 H/12 CONSEC. MONTH VENTING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE

MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 7.6000 LB/MMCF 3 HR AVG

Emission Limit 2: 336.0000 H/12 CONSEC. MONTH VENTING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 7.6000 LB/MMCF 3 HR AVG

Emission Limit 2: 336.0000 H/12 CONSEC. MONTH VENTING

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0680 LB/MMBTU NORMAL OPS. 3 HR AVG.

Emission Limit 2: 595.4900 LB/H VENTING OPS. 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HRS PER 12 CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED AT END OF EACH MONTH.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.3700 LB/MMBTU NORMAL OPS. 3 HR AVG.

Emission Limit 2: 3240.1600 LB/H VENTING OPS. 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HOURS PER TWELVE CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED AT THE END OF EACH MONTH.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0054 LB/MMBTU NORMAL OPS. 3 HR AVG

Emission Limit 2: 47.2600 LB/H VENTING OPS. 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HOURS PER TWELVE CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED AT THE END OF EACH MONTH.

POLLUTANT NAME: Carbon Dioxide

CAS Number: 124-38-9

Test Method: Unspecified

Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)

Emission Limit 1: 116.8900 LB/MMBTU NORMAL OPS. 3 HR AVG

Emission Limit 2: 512.2000 TON/H VENTING OPS., 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HOURS PER TWELVE CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED AT THE END OF EACH MONTH.

Process/Pollutant Information

PROCESS NAME: BACK END FLARE (EU-018)

Process Type: 19.390 (Other Flares)

Primary Fuel: NATURAL GAS

Throughput: 1.12 MMBTU/H

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0019 LB/MMBTU 3 HR AVG

Emission Limit 2: 336.0000 HR/12 CONSEC. MONTH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MMBTU 3 HR AVG.

Emission Limit 2: 336.0000 HR/12 CONSEC. MONTH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MMBTU 3 HR AVG.

Emission Limit 2: 336.0000 HR/12 CONSEC. MONTHS

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS

STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0680 LB/MMBTU NORMAL OPS. 3 HR AVG.

Emission Limit 2: 624.9400 LB/H VENTING OPS. 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES;

SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HOURS PER 12 CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED AT END OF EACH MONTH.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.3700 LB/MMBTU NORMAL OPS. 3 HR AVG.

Emission Limit 2: 804.7600 LB/H VENTING OPS. 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HOURS PER 12 CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED AT END OF EACH MONTH.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0054 LB/MMBTU NORMAL OPS. 3 HR AVG.

Emission Limit 2: 11.7300 LB/H VENTING OPS. 3 HR AVG.

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HOURS PER 12 CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED AT END OF EACH MONTH.

POLLUTANT NAME: Carbon Dioxide

CAS Number: 124-38-9

Test Method: Unspecified

Pollutant Group(s): (Acid Gasses/Mist , Greenhouse Gasses (GHG) , InOrganic Compounds)

Emission Limit 1: 116.8900 LB/MMBTU NORMAL OPS. 3 HR AVG

Emission Limit 2: 573.0000 TON/12 CONSEC. MONTH

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: LIMIT 3: PILOT AND PURGE GAS FUELS USED SHALL BE NATURAL GAS LIMIT 4: COMPLY WITH THE FOLLOWING FLARE MINIMIZATION PRACTICES TO REDUCE EMISSIONS DURING STARTUPS, SHUTDOWNS, AND OTHER FLARING EVENTS: (1) SHALL LIMIT PERIODS WHEN THE BACKUP STORAGE COMPRESSOR AND THE AMMONIA REFRIGERATION COMPRESSOR ARE OFFLINE AT THE SAME TIME TO THE EXTENT PRACTICABLE; (2) TRAIN ALL OPERATORS RESPONSIBLE FOR THE DAY TO DAY OPERATION OF THE FLARES ON THE FLARE MINIMIZATION PRACTICES AND THE SPECIFIC PROCEDURES TO FOLLOW DURING PROCESS STARTUP, SHUT DOWN, AND OTHER FLARING EVENTS; (3) SHALL INVESTIGATE THE "ROOT CAUSE" OF MALFUNCTION EVENTS THAT CAUSE FLARING EVENTS OTHER THAN AT STARTUP OR SHUT DOWN. THIS ROOT CAUSE ANALYSIS SHALL IDENTIFY THE APPARENT CAUSE OF UNANTICIPATED FLARING EVENT AND SHALL RECOMMEND ADDITIONAL PREVENTIVE MEASURES THAT WILL MINIMIZE THE CHANCE OF A REPEAT EVENT. LIMIT 5: FLARES SHALL BE DESIGNED FOR AND OPERATED WITH NO VES, EXCEPT FOR PERIODS NOT TO EXCEED 5 MIN DUING ANY 2 CONSEC. HOURS; SHALL BE OPERATED WITH A FLAME PRESENT AT ALL TIMES; SHALL BE CONTINUOUSLY MONITORED TO ASSURE THE PRESENCE OF A PILOT FLAME WITH A THERMOCOUPLE, INFRARED MONITOR, OR OTHER APPROVED DEVICE. LIMIT 6: SHALL NOT EXCEED 336 HOURS PER 12 CONSECUTIVE MONTH PERIOD WITH COMPLIANCE DETERMINED AT END OF EACH MONTH.

Process/Pollutant Information

PROCESS NAME: TRUCK AND RAIL LOADING OPERATION (EU-021A)

Process Type: 61.012 (Fertilizer Production (except 61.009))

Primary Fuel:

Throughput: 4800.00 METRIC TON/DAY

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 LB/H 3 HR AVG.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 LB/H 3 HR AVG.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 LB/H 3 HR AVG.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: PAVED ROADS AND PARKING LOTS

Process Type: 99.190 (Other Fugitive Dust Sources)

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) PAVING ALL PLANT HAUL ROADS, WET SUPPRESSION, PROMPT CLEANUP OF ANY SPILLED MATERIALS.

Est. % Efficiency: 90.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) PAVING ALL PLANT HAUL ROADS, WET SUPPRESSION, PROMPT CLEANUP OF ANY SPILLED MATERIALS.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(P) PAVING ALL PLANT HAUL ROADS, WET SUPPRESSION, PROMPT CLEANUP OF ANY SPILLED MATERIALS.
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	LA-0316 (final)	**Date Determination Last Updated:**	04/28/2017
Corporate/Company Name:	CAMERON LNG LLC	**Permit Number:**	PSD-LA-766(M3)
Facility Name:	CAMERON LNG FACILITY	**Permit Date:**	02/17/2017 (actual)
Facility Contact:	CLAYTON MILLER 337-680-4531 CMILLER@CAMERONLNG.COM	**FRS Number:**	110029511883
Facility Description:	a facility to liquefy natural gas for export (5 trains)	**SIC Code:**	4922
Permit Type:	B: Add new process to existing facility	**NAICS Code:**	221210
Permit URL:			
EPA Region:	6	**COUNTRY:**	USA
Facility County:	CAMERON		
Facility State:	LA		
Facility ZIP Code:	70645		
Permit Issued By:	LOUISIANA DEPARTMENT OF ENV QUALITY (Agency Name) MR. BRYAN D. JOHNSTON(Agency Contact) (225)219-3450 BRYAN.JOHNSTON@LA.GOV		
Other Agency Contact Info:	permit writer: dan nguyen (225)219-3395		
Permit Notes:	Permit PSD-LA-766, dated 10/1/13 for liquefaction trains 1,2, and 3 Permit PSD-LA-766(M1), dated 6/26/14, for minor changes; Permit PSD-LA-766(M2), dated 3/3/16, for train 4 and 5		

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	LA	Breton	> 250 km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	3147.0000 (Tons/Year)
Nitrogen Oxides (NOx)	3172.0000 (Tons/Year)
Particulate Matter (PM)	438.0000 (Tons/Year)

Sulfur Oxides (SOx)	27.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	226.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Gas turbines (9 units)

Process Type: 15.110 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: natural gas

Throughput: 1069.00 mm btu/hr

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0076 LB/MM BTU THREE ONE-HOUR TEST AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion practices and fueled by natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0076 LB/MM BTU THREE ONE-HOUR TEST AVERAGE

Emission Limit 2:

Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion practices and fueled by natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 15.0000 PPMVD @15%O2
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion practices and dry low nox burners
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 15.0000 PPMVD @15%O2
Emission Limit 2:

Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion practices and fueled by natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.6000 PPMVD @15%O2
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion practices and fueled by natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good combustion practices and fueled by natural gas; Use high thermal efficiency turbines

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: thermal oxidizers (4 units)

Process Type: 19.200 (Emission Control Afterburners & Incinerators (combustion gasses only))

Primary Fuel: natural gas

Throughput: 390.42 mm btu/hr

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good equipment design, proper operating practices, and fueled by natural gas

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good equipment design, proper operating practices, and fueled by natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good equipment design, proper operating practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good equipment design, proper operating practices, and fueled by natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good equipment design, proper operating practices, and fueled by natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good equipment design, proper operating practices, and fueled by natural gas
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Flares (3 units)
Process Type: 19.390 (Other Flares)
Primary Fuel: natural gas
Throughput: 0
Process Notes: ground flare EU20 = 91 MM BTU/hr low pressure flare EU20A = 1077 mm btu/hr

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) proper plant operations and maintaining the presence of the flame at the flare tips when vent gas is routed to the flares

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) proper plant operations and maintaining the presence of the flame at the flare tips when vent gas is routed to the flares

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) proper plant operations and maintaining the presence of the flame at the flare tips when vent gas is routed to the flares

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) proper plant operations and maintaining the presence of the flame at the flare tips when vent gas is routed to the flares

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) proper plant operations and maintaining the presence of the flame at the flare tips when vent gas is routed to the flares
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) proper plant operations and maintaining the presence of the flame at the flare tips when vent gas is routed to the flares
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: firewater pump engines (8 units)

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: diesel

Throughput: 460.00 hp

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Complying with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Complying with 40 CFR 60 Subpart IIII

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Dioxide (NO2)
CAS Number: 10102-44-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Complying with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Complying with 40 CFR 60 Subpart IIII

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Complying with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion practices

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: emergency generator engines (6 units)
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: diesel
Throughput: 3353.00 hp
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Complying with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Complying with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Complying with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Complying with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Complying with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: condensate tanks (3 units)
Process Type: 42.006 (Petroleum Liquid Storage in Floating Roof Tanks)
Primary Fuel:
Throughput: 965000.00 gallons (each)
Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) closed vent system and control devices that meet 40 CFR 60 Subpart Kb
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: diesel tanks (2 units)
Process Type: 42.006 (Petroleum Liquid Storage in Floating Roof Tanks)
Primary Fuel:
Throughput: 54144.00 gallons (each)
Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) equipped with fixed roofs
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: condensate loading

Process Type: 50.004 (Petroleum Refining Feedstock (blending, loading and unloading))

Primary Fuel:

Throughput: 604240.00 bbls/yr

Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) good equipment design and proper operating practices; vapor balanced loading

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: fugitive emissions

Process Type: 50.007 (Petroleum Refining Equipment Leaks/Fugitive Emissions)

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Complying with LAC 33:III.2111
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Implement a leak detection and repair (LDAR) program to minimize the leak
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Facility Information

RBLC ID: LA-0323 (final)

Date Determination Last Updated: 05/11/2018

Corporate/Company Name:	MONSANTO COMPANY	**Permit Number:**	PSD-LA-890
Facility Name:	MONSANTO LULING PLANT	**Permit Date:**	01/09/2017 (actual)
Facility Contact:	ENRIQUE WEHLEN 9857858211 ENRIGUE.WEHLEN@MONSANTO.COM	**FRS Number:**	110067118274
Facility Description:	Chemical Manufacture	**SIC Code:**	2879
Permit Type:	D: Both B (Add new process to existing facility) &C (Modify process at existing facility)	**NAICS Code:**	325320
Permit URL:	http://edms.deq.louisiana.gov/app/doc/view.aspx?doc=10460194&ob=yes		
EPA Region:	6	**COUNTRY:**	USA
Facility County:	ST. CHARLES PARISH		
Facility State:	LA		
Facility ZIP Code:	70070		
Permit Issued By:	LOUISIANA DEPARTMENT OF ENV QUALITY (Agency Name) MR. BRYAN D. JOHNSTON(Agency Contact) (225)219-3450 BRYAN.JOHNSTON@LA.GOV		
Permit Notes:	Dicamba Manufacturing Facility expansion project.		

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	LA	Breton	100km - 50km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	118.3000 (Tons/Year)
Nitrogen Oxides (NOx)	84.2400 (Tons/Year)
Particulate Matter (PM)	20.8600 (Tons/Year)
Sulfur Oxides (SOx)	1.6100 (Tons/Year)
Volatile Organic Compounds (VOC)	39.4900 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	No. 9 Boiler - Natural Gas Fired
Process Type:	11.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel:	Natural Gas
Throughput:	325.00 MMBTU/h
Process Notes:	

POLLUTANT NAME:	Particulate matter, total < 10 µ (TPM10)
CAS Number:	PM
Test Method:	Unspecified
Pollutant Group(s):	(Particulate Matter (PM))

Emission Limit 1: 0.0075 LB/MMBTU ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , NESHAP
Control Method: (P) Good combustion practices and Boiler MACT
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Other
Other Test Method: Method 201A
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP , NSPS
Control Method: (P) Good combustion practices and Boiler MACT
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: EPA/OAR Mthd 7E

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0350 LB/MMBTU ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , NESHAP
Control Method: (A) Ultra Low NOx Burners
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0450 LB/MMBTU ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , NESHAP
Control Method: (P) Good combustion practices and Boiler MACT
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 0.1670 LB/LB ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , NESHAP
Control Method: (P) Good combustion practices and energy efficient operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are lb of CO2e/lb of steam generated.

Process/Pollutant Information

PROCESS NAME: No. 10 Boiler - Natural Gas Fired
Process Type: 11.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural Gas
Throughput: 325.00 MMBTU/h
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A and OTM 28
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , NESHAP
Control Method: (P) Good combustion practices and Boiler MACT
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: Method 201A
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0075 LB/MMBTU ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , NESHAP
Control Method: (P) Good combustion practices and Boiler MACT
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: EPA/OAR Mthd 7E
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0350 LB/MMBTU ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , NESHAP
Control Method: (A) Ultra Low NOx Burners

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0450 LB/MMBTU ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , NESHAP
Control Method: (P) Good combustion practices and Boiler MACT
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 0.1670 LB/LB ANNUAL AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , NESHAP
Control Method: (P) Good combustion practices and energy efficient operation

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Units are lb of CO2e/lb of steam generated.

Process/Pollutant Information

PROCESS NAME: Cooling Water Tower
Process Type: 99.009 (Industrial Process Cooling Towers)
Primary Fuel:
Throughput: 18000.00 gal/m
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0030 %
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (A) Drift Eliminators with Draft Factor of 0.003%
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Drift Eliminators with Drift Factor of 0.003%

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (A) Drift Eliminators with Drift Factor of 0.003%
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Drift Eliminators with Drift Factor of 0.003%

Process/Pollutant Information

PROCESS NAME: Emergency Flare
Process Type: 19.310 (Chemical Plant Flares)
Primary Fuel: Natural Gas
Throughput: 0.40 mmbtu/h
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (P) Proper design and operation
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (P) Proper design and operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (P) Proper design and operation
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (P) Proper design and operation
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (P) Proper design and operation
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Thermal Oxidizer with Caustic Scrubber
Process Type: 19.900 (Other Misc. Combustion)
Primary Fuel:
Throughput: 33.50 mmbtu/h
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (B) Good combustion practices, Compliance with applicable NESHAP, and Caustic Scrubber.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (B) Good combustion practices, Compliance with applicable NESHAP, and Caustic Scrubber.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (B) Good combustion practices, Compliance with applicable NESHAP, and Caustic Scrubber.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (B) Good combustion practices, Compliance with applicable NESHAP, and Caustic Scrubber.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Fire Water Diesel Pump No. 3 Engine
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel Fuel

Throughput: 600.00 hp

Process Notes: Emergency engine with a limit of 100 hours/yr on operating hours for ready testing.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Fire Water Diesel Pump No. 4 Engine
Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel Fuel
Throughput: 600.00 hp
Process Notes: Emergency Engine limited to 100 hours/yr for ready tests

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Standby Generator No. 9 Engine

Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel Fuel

Throughput: 400.00 hp

Process Notes: Operating hours limited to 100 hours/yr for ready testing.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1:
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Process Baghouse Dust Collector Filter

Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)

Primary Fuel:

Throughput: 700.00 cfm

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0003 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Baghouse Dust Collector Filter

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0003 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 1 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:

Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 2 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:

Throughput: 12000.00 cfm

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 3 Baghouse Dust Collector

Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)

Primary Fuel:

Throughput: 12000.00 cfm

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Baghouse Dust Collector Filter

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0020 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 4 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 5 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 6 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Baghouse Dust Collector Filter

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Baghouse Dust Collector Filter

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 7 Baghouse Dust Collector

Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)

Primary Fuel:

Throughput: 12000.00 cfm

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Baghouse Dust Collector Filter

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 8 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 9 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 10 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 11 Baghouse Dust Collector

Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)

Primary Fuel:

Throughput: 12000.00 cfm

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Baghouse Dust Collector Filter

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Baghouse Dust Collector Filter

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 12 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 13 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 14 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)
Primary Fuel:
Throughput: 12000.00 cfm
Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0002 GR/DSCF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) Baghouse Dust Collector Filter
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: Building Vent 15 Baghouse Dust Collector
Process Type: 61.999 (Other Agricultural Chemical Manufacturing Sources)

Primary Fuel:

Throughput: 12000.00 cfm

Process Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Baghouse Dust Collector Filter

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0002 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) Baghouse Dust Collector Filter

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Facility Information

RBLC ID:	MI-0423 (final)	**Date Determination**	
		Last Updated:	03/08/2018
Corporate/Company Name:	INDECK NILES, LLC	**Permit Number:**	75-16
Facility Name:	INDECK NILES, LLC	**Permit Date:**	01/04/2017 (actual)
Facility Contact:	MICHAEL DUBOIS 847-520-3212 MDUBOIS@INDECKENERGY.COM	**FRS Number:**	Not Found
Facility Description:	Natural gas combined cycle power plant.	**SIC Code:**	4911
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	221112
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	CASS		
Facility State:	MI		
Facility ZIP Code:	49120		

Permit Issued By: MICHIGAN DEPT OF ENVIRONMENTAL QUALITY (Agency Name)
MS. CINDY SMITH(Agency Contact) (517)284-6802 SMITHC17@MICHIGAN.GOV

Other Agency Contact Info: Please contact the permit engineer, Catherine Asselin at 517-284-6786, or at asselinc@michigan.gov, for technical questions regarding the permit. Thank you.

Permit Notes: The permit includes equipment not entered into the RBLC due to a lack of emission limits or material limits; these include a cold cleaner, a number of space heaters, and two fuel tanks.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	2009.0000 (Tons/Year)
Nitrogen Oxides (NOx)	494.0000 (Tons/Year)
Particulate Matter (PM)	91.2000 (Tons/Year)
Sulfur Oxides (SOx)	103.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	948.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: FGCTGHRSG (2 Combined Cycle CTGs with HRSGs)

Process Type: 15.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 8322.00 MMBTU/H

Process Notes: There are 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) identified as EUCTGHRSG1 & EUCTGHRSG2 in the flexible group FGCTGHRSG. The total hours for startup and shutdown for each train shall not exceed 500 hours per 12-month rolling time period. The throughput capacity is 3421 MMBTU/H for each turbine, and 740 MMBTU/H for each duct burner for a combined throughput of 4161 MMBTU/H or 8322 MMBTU/H for both trains.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 24.7000 LB/H 24-H ROLLING AVG

Emission Limit 2: 3537.0000 LB/H OPERATING HR. DURING STARTUP OR SHUTDOWN

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (B) Oxidation catalyst technology and good combustion practices.

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 3 emission limits and they are for EACH CTGHRSG, as follows: Emission Limit 1 = 4 ppmvd at 15%O2 based on a 24-H rolling average as determined each operating hour except during startup and shutdown. Emission Limit 2 = 24.7 LB/H based on a 24-H rolling average as determined each operating hour except during startup and shutdown. Emission Limit 3 = 3537 LB/H based on an operating hour during startup or shutdown. Startup and shutdown operations are limited to 500 hours per 12-month rolling time period for each CTGHRSG train. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the startup and shutdown emission minimization plan. The efficiency range is 85-90 percent.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 38.1000 LB/H 24-H ROLLING AVERAGE

Emission Limit 2: 286.0000 LB/H OPERATING HR DURING STARTUP OR SHUTDOWN

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (A) SCR with DLNB (selective catalytic reduction with dry low NOx burners)

Est. % Efficiency: 80.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: There are 4 emission limits (2 in the table above) with are for EACH CTGHRSG. They are as follows: Emission Limit 1 = 3 ppmvd at 15%O2 based on a 24-H rolling avg as determined each operating hour except during startup and shutdown. Emission Limit 2 = 15 ppmvd at 15%O2 based on a 30-day rolling avg as determined each operating day. (NSPS KKKK). Emission Limit 3 = 38.1 LB/H based on a 24-H rolling avg as determined during each operating hour except during startup and shutdown. Emission Limit 4 = 286 LB/H based on an operating hour during startup or shutdown. Startup and shutdown operations are limited to 500 hours per 12-month rolling time period for each CTGHRSG train. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the startup and shutdown emission minimization plan. The efficiency range is 80-90 percent.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 9.9000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit in the table above is for EACH CTGHRSG. The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. The dollar value year used was 2014. Pulse jet fabric filter baghouse: minimum of $364,528 per ton. Mechanical shaker fabric filter baghouse: minimum of $404,724 per ton. Reverse-air fabric filter baghouse: minimum of $476,689 per ton. Dry ESP (Wire-plate type): minimum of $478,806 Dry ESP (Wire-pipe type): minimum of $303,809 per ton. Wet ESP (Wire-plate type): minimum of $576,763 per ton. Wet ESP (Wire-pipe type): minimum of $440,047 per ton. Venturi Scrubber: minimum of $1,445,564 per ton.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.8000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit in the table above applies to EACH CTGHRSG. The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10 which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. The dollar value year used was 2014. Pulse Jet Fabric Filter Baghouse: minimum of $364,528 per ton Mechanical Shaker Fabric Filter Baghouse: minimum of $404,724 per ton Reverse-Air Fabric Filter Baghouse: minimum of $476,689 per ton Dry ESP (Wire-Plate Type): minimum of $478,806 per ton Dry ESP (Wire-Pipe Type): minimum of $303,809 per ton Wet ESP (Wire-Plate Type): minimum of $576,763 per ton Wet ESP (Wire-Pipe Type): minimum of $440,047 per ton Venturi Scrubber: minimum of $1,445,564 per ton

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 19.8000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good Combustion Practices, inlet air conditioning, and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit in the table above is for EACH CTGHRSG. The cost analysis was for the best scenario: 100 percent capture of PM2.5/PM10, which are higher emitting than PM. PM cost effectiveness would be worse than the numbers provided. The dollar value year used was 2014. Pulse Jet Fabric Filter Baghouse: minimum of $364,528 per ton Mechanical Shaker Fabric Filter Baghouse: minimum of $404,724 per ton Reverse-Air Fabric Filter Baghouse: minimum of $476,689 per ton Dry ESP (Wire-Plate Type): minimum of $478,806 per ton Dry ESP (Wire-Pipe Type): minimum of $303,809 per ton Wet ESP (Wire-Plate Type): minimum of $576,763 per ton Wet ESP (Wire-Pipe Type): minimum of $440,047 per ton Venturi Scrubber: minimum of $1,445,564 per ton

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.0000 PPM TEST PROTOCOL WILL SPECIFY

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (B) Oxidation Catalyst Technology and Good Combustion Practices

Est. % Efficiency: 85.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit above is 4 ppmvd at 15%O2 and is for EACH CTGHRSG. Startup and shutdown operations are limited to 500 hours per 12-month rolling time period for each CTGHRSG train. Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the startup and shutdown emission minimization plan. The efficiency range is 85-90 percent.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 11.7000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2: 0.0600 LB/MMBTU TEST PROTOCOL WILL SPECIFY AVG TIME

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good Combustion Practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limits above are for EACH CTGHRSG. There is also a NSPS natural gas material limit of 20 grains of sulfur per 100 scf.

POLLUTANT NAME: Sulfuric Acid (mist, vapors, etc)

CAS Number: 7664-93-9

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Particulate Matter (PM))

Emission Limit 1: 4.6000 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good Combustion Practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit above is for EACH CTGHRSG. H2SO4 was calculated from manufacturer's data, assuming 100% conversion of SO3 to H2SO4.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 2097001.0000 T/YR 12-MONTH ROLLING TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The emission limit above is for EACH CTGHRSG. The proposed permit also contains a 802 lb CO2 per MW-hour (lb/MWh) emission limit that serves as BACT due to energy efficiency, which is equivalent to a net heat rate of 6,855 Btu/kW-hr per 2x1 block and is more stringent than the required NSPS limit of the same units. The amine-based CCS technologies were used since these are generally considered to be the most feasible near-term deployable technology for possible future CO2 removal. CCS is assumed to be about 90 percent effective. Using the lowest capital cost range, the estimated capital cost for CCS for the proposed project is approximately $629,000,000. The cost of a pipeline to transport the CO2 was added to the result to estimate the total capital cost of the CO2 control system. The operating and maintenance and indirect operating costs were estimated to be around $53,000,000. Based on 90 percent CO2 removal and the control being applied to the facility-wide emissions, not just the CTG/HRSG trains, the resulting cost is estimated to be $30/ton and was not

considered economically feasible.

Process/Pollutant Information

PROCESS NAME: EUAUXBOILER (Auxiliary Boiler)

Process Type: 12.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: natural gas

Throughput: 182.00 MMBTU/H

Process Notes: One natural gas-fired auxiliary boiler rated at 182 MMBTU/H fuel heat input.

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0400 LB/MMBTU TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: An oxidation catalyst is greater than $40,000/ton for CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0400 LB/MMBTU 30 DAY ROLLING AVG TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (B) Low NOx burners/Flue gas recirculation and good combustion practices.
Est. % Efficiency: 70.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: Selective catalytic reduction (SCR) is greater than $10,000/ton for NOx.

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 LB/MMBTU TEST PROTOCOL WILL SPECIFY AVG TIME
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: At greater than $40,000 for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.3600 LB/H HOURLY, TEST PROTOCOL
Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: At greater than $40,000 for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a scrubber and various types of fabric filters.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 1.3600 LB/H HOURLY, TEST PROTOCOL

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: At greater than $40,000 for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0040 LB/MMBTU TEST PROTOCOL WILL SPECIFY AVG TIME.

Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is greater than $40,000/ton for CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.6000 LB/MMSCF BASED ON FUEL RECEIPT RECORDS
Emission Limit 2: 2000.0000 GR/MMSCF BASED UPON FUEL RECEIPT RECORDS
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limit 2 above is 2,000 grains of sulfur per MMscf. The natural gas material limit of 2,000 grains of sulfur per MMscf is what the emission factor is based upon.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 93346.0000 T/YR 12-MO ROLLING TIME PERIOD
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: FGFUELHTR (Two fuel pre-heaters identified as EUFUELHTR1 & EUFUELHTR2)
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: Natural gas
Throughput: 27.00 MMBTU/H
Process Notes: Two natural gas fired dew point heaters for warming the natural gas fuel (EUFUELHTR1 & EUFUELHTR2 in flexible group FGFUELHTR). The total combined heat input during operation shall not exceed 27 MMBTU/H (each) as well. The CO2e limit is for both units combined; however the other limits are per unit.

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.2200 LB/H HOURLY; EACH UNIT
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limit of 2.22 lb/hr is for each fuel heater. An oxidation catalyst is greater than $40,000/ton for CO and VOC together, factoring in the redundancy of the heaters (limited joint operation).

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 2.6500 LB/H HOURLY; EACH UNIT
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limit of 2.65 lb/hr is for each unit. SCR and low NOx burners are each greater than $18,000/ton for NOx, factoring in the redundancy of the heaters (limited operation).

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0020 LB/MMBTU TEST PROTOCOL WILL SPECIFY AVG TIME.
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:

Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The emission limit above of 0.002 LB/MMBTU is for each fuel heater. At greater than $40,000 for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 LB/H HOURLY; EACH FUEL HEATER
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: At greater than $40,000 for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 LB/H HOURLY; EACH FUEL HEATER
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: At greater than $40,000 for the least expensive option, none of the control technologies are economically feasible. Control technologies evaluated were a scrubber and various types of fabric filters and ESPs.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.1500 LB/H HOURLY; EACH FUEL HEATER
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: An oxidation catalyst is greater than $40,000/ton for CO and VOC together, factoring in the redundancy of the heaters (limited joint operation).

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 2000.0000 GR/MMSCF BASED UPON FUEL RECEIPT RECORDS.
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP

Control Method: (P) Good combustion practices and the use of pipeline quality natural gas.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: NOTE: The limit is 2,000 grains of sulfur per MMscf. The natural gas material limit of 2000 grains of sulfur per MMscf is what the emission factor is based upon.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 13848.0000 T/YR 12-MO ROLLING TIME PERIOD; COMBINED LIMI

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The CO2e limit is for both units combined.

Process/Pollutant Information

PROCESS NAME: EUEMENGINE (Diesel fuel emergency engine)

Process Type: 17.110 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))

Primary Fuel: Diesel Fuel

Throughput: 22.68 MMBTU/H

Process Notes: a 2,922 horsepower (HP) (2,179 kilowatts (kW)) diesel fueled emergency engine manufactured in 2011 or later and a displacement of

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 3.5000 G/KW-H TEST PROTOCOL SHALL SPECIFY AVG TIME
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: On average, an oxidation catalyst is greater than $88,000/ton for CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 6.4000 G/KW-H TEST PROTOCOL WILL SPECIFY AVG TIME
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No

Pollutant/Compliance Notes: The limit is actually in "NMHC + NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.2000 G/KW-H TEST PROTOCOL WILL SPECIFY AVG TIME
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.5800 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 1.5800 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 1.8700 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: On average, an oxidation catalyst is greater than $88,000/ton for CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))

Emission Limit 1: 15.0000 PPM FUEL SUPPLIER CERTIFICATION RECORDS

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: NOTE: The "Avg. Time/Conditions" for the emission limit of 15 ppm identified above is fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil. The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 928.0000 T/YR 12-MO. ROLLING TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: EUFPENGINE (Emergency engine--diesel fire pump)
Process Type: 17.210 (Fuel Oil (ASTM # 1,2, includes kerosene, aviation, diesel fuel))
Primary Fuel: Diesel
Throughput: 1.66 MMBTU/H
Process Notes: A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later and a displacement of

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 2.6000 G/BHP-H TEST PROTOCOL WILL SPECIFY AVG. TIME
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: On average, an oxidation catalyst is greater than $308,000/ton for CO and VOC together.

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 3.0000 G/BHP-H TEST PROTOCOL WILL SPECIFY AVG TIME

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , SIP

Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: The limit is actually in "NMHC + NOx" (nonmethane hydrocarbon plus NOx), which is what is required in the NSPS.

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1500 G/BHP-H TEST PROTOCOL WILL SPECIFY AVG TIME.

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS

Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.5700 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.5700 LB/H HOURLY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.6400 LB/H TEST PROTOCOL WILL SPECIFY AVG TIME
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Good combustion practices
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: On average, an oxidation catalyst is greater than $308,000/ton for CO and VOC together.

POLLUTANT NAME: Sulfur Dioxide (SO2)

CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 15.0000 PPM FUEL SUP. CERT. RECORDS OR SAMPLE TEST
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , SIP
Control Method: (P) Good combustion practices and meeting NSPS Subpart IIII requirements.
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The Avg. Time/Conditions for the emission limit above is fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil. The diesel material limit is 15 ppm of sulfur (0.0015 percent) by weight.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)

CAS Number: CO2e
Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG))

Emission Limit 1: 13.5800 T/YR 12 MO. ROLLING TIME PERIOD

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Good combustion practices

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

COMPREHENSIVE REPORT
Report Date:07/17/2020

Facility Information

RBLC ID:	MI-0436 (final)	**Date Determination Last Updated:**	02/20/2019
Corporate/Company Name:	THE REGENTS OF THE UNIVERSITY OF MICHIGAN	**Permit Number:**	1-18
Facility Name:	CENTRAL POWER PLANT	**Permit Date:**	08/23/2018 (actual)
Facility Contact:	BRANDI CAMPBELL 734-647-9017 CAMPBELB@UMICH.EDU	**FRS Number:**	Not Found
Facility Description:	The facility supplies heating, cooling and electricity to campus buildings.	**SIC Code:**	8221
Permit Type:	B: Add new process to existing facility	**NAICS Code:**	611310
Permit URL:			
EPA Region:	5	**COUNTRY:**	USA
Facility County:	WASHTENAW		
Facility State:	MI		
Facility ZIP Code:	48109-1010		
Permit Issued By:	MICHIGAN DEPT OF ENVIRONMENTAL QUALITY (Agency Name) MS. CINDY SMITH(Agency Contact) (517)284-6802 SMITHC17@MICHIGAN.GOV		
Other Agency Contact Info:	Please contact the permit engineer, Ms. Ambrosia Brown, at 517-284-6788 or at browna39@michigan.gov, for technical questions regarding the permit. Thank you.		
Permit Notes:	The "Facilitywide Pollutants" listed below are the emissions increases for the project and not for the entire university.		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	94.2000 (Tons/Year)
Nitrogen Oxides (NOx)	35.7000 (Tons/Year)
Particulate Matter (PM)	15.8000 (Tons/Year)
Sulfur Oxides (SOx)	0.7000 (Tons/Year)
Volatile Organic Compounds (VOC)	19.9000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: EU-CPP-CHPHRSG (combined heat and power unit)

Process Type: 16.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural gas

Throughput: 190.10 MMBTU/H

Process Notes: The emission unit is a combined heat and power unit with heat recovery steam generator (HRSG). The primary fuel for the turbine is natural gas but it will be capable of firing ultra-low sulfur diesel (ULSD) as a backup fuel. The CTG has a rating of 190.1 MMBTU/H (HHV) on natural gas and 173.4 MMBTU/H (HHV) on ULSD. The HRSG is equipped with a natural gas-fired duct burner rated at 112 MMBTU/H (HHV). The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx combustion technology and SCR.

POLLUTANT NAME: Particulate matter, total < 10 µ (TPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 3.6000 LB/H WHEN FIRING NAT.GAS AT FULL LOAD

Emission Limit 2: 3.5000 LB/H WHEN FIRING ULSD AT FULL LOAD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Use of natural gas as the primary fuel and good combustion practices.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: No particulate emission control equipment previously listed for this type of equipment in RBLC for similar process.

POLLUTANT NAME: Particulate matter, total < 2.5 µ (TPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 3.6000 LB/H WHEN FIRING NAT. GAS AT FULL LOAD

Emission Limit 2: 3.5000 LB/H WHEN FIRING ULSD AT FULL LOAD

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Use of natural gas as the primary fuel and good combustion processes.

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: No particulate emission control equipment previously listed for this type of equipment in RBLC for similar process.

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 155597.0000 T/YR OF CO2E
Emission Limit 2: 1000.0000 LB/MWH OF CO2E BASED ON GROSS ENERGY OUTPUT AT
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) Follow manufacturer inspection and maintenance recommendations, install insulation where appropriate to minimize heat loss, use of computer-based control system that enables monitoring and optimal fuel and air flows, select system design to maximum efficiency, an audible, visible, and olfactory inspection and maintenance routine to minimize leaks in gas piping components.
Est. % Efficiency:
Cost Effectiveness: 98 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes: The second limit above, 1000 lb/MWh is based on CO2e based on gross energy output at full loads. Cost effectiveness for carbon capture and sequestration.

Facility Information

RBLC ID:	AL-0321 (final)	**Date Determination**	
		Last Updated:	05/11/2018
Corporate/Company Name:	KIMBERLY-CLARK CORPORATION - MOBILE OPERATIONS	**Permit Number:**	503-2012
Facility Name:	KIMBERLY-CLARK MOBILE	**Permit Date:**	10/11/2017 (actual)
Facility Contact:	LEEANNE STICKLAND 251 330 3464 LEEANNE.STRICKLAND@KCC.COM	**FRS Number:**	110058122259

Facility Description:		**SIC Code:**	2621
Permit Type:	B: Add new process to existing facility	**NAICS Code:**	322121
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	MOBILE		
Facility State:	AL		
Facility ZIP Code:	36610		
Permit Issued By:	ALABAMA DEPT OF ENVIRONMENTAL MGMT (Agency Name) MR. DALE HURST(Agency Contact) (334) 271-7882 ADH@ADEM.STATE.AL.US		
Permit Notes:			

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	69.0000 (Tons/Year)
Nitrogen Oxides (NOx)	70.0000 (Tons/Year)
Particulate Matter (PM)	187.0000 (Tons/Year)
Sulfur Oxides (SOx)	0.5900 (Tons/Year)
Volatile Organic Compounds (VOC)	307.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: 801 Combustion Turbine

Process Type: 16.210 (Natural Gas (includes propane & liquified petroleum gas))

Primary Fuel: Natural Gas

Throughput: 22.40 MW

Process Notes: 22.4MW Solar Titan 250E Combustion Turbine with 130 MMBtu/hr Supplemental Burner

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0089 LB/MMBTU 3HR

Emission Limit 2: 1.9400 LB/HR 3 HR

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Combustion Turbine & Supplemental Burner are both in operation the following apply:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)
CAS Number: PM
Test Method: Other
Other Test Method: 201A
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0089 LB/MMBTU 3 HR
Emission Limit 2: 1.9400 LB/HR 3 HR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Combustion Turbine & Supplemental Burner are both in operation the following apply:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 40921.0000 LB/HR
Emission Limit 2: 179235.0000 TPY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: 802 Combustion Turbine
Process Type: 16.210 (Natural Gas (includes propane & liquified petroleum gas))
Primary Fuel: Natural Gas
Throughput: 22.40 MW
Process Notes: 22.4MW Solar Titan 250E Combustion Turbine with 130 MMBtu/hr Supplemental Burner.

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM
Test Method: EPA/OAR Mthd 201A
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0089 LB/MMBTU 3 HR
Emission Limit 2: 1.9400 LB/HR 3 HR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Combustion Turbine & Supplemental Burner are both in operation the following apply:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM
Test Method: Other
Other Test Method: 201a
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0089 LB/MMBTU 3 HR
Emission Limit 2: 1.9400 LB/HR 3 HR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: When Combustion Turbine & Supplemental Burner are both in operation the following apply:

POLLUTANT NAME: Carbon Dioxide Equivalent (CO2e)
CAS Number: CO2e
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG))
Emission Limit 1: 40921.0000 LB/HR
Emission Limit 2: 179235.0000 TPY
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: 803 Cooling Tower

Process Type: 99.999 (Other Miscellaneous Sources)

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: EPA/OAR Mthd 201A

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 % DRIFT ELIMINATION

Emission Limit 2: 1000.0000 MG/L TDS 12 MONTH AVG

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 % DRIFT ELIMINATION

Emission Limit 2: 1000.0000 MG/L TDS 12 MONTH AVG

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: