



NVRO-262-01

COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

James S. Gilmore, III
Governor

Northern Virginia Regional Office
13901 Crown Court
Woodbridge, VA 22193-1453
(703) 583-3800 fax (703) 583-3801
<http://www.deq.state.va.us>

Dennis H. Treacy
Director

John Paul Woodley, Jr.
Secretary of Natural Resources

Gregory L. Clayton
Regional Director

November 20, 2001

Mr. Richard J. Cook
Vice President of Technical Operations
Washington Gas – Springfield Operations Center
6801 Industrial Road
Springfield, VA. 22151

Location: Fairfax County
Registration No.: 70151
AIRS No.: 51-059-0056

Dear Mr. Cook:

Attached is a permit to operate your co-generation plant pursuant to 9 VAC 5 Chapter 80 of the Virginia Regulations for the Control and Abatement of Air Pollution. This permit incorporates provisions from the Consent Agreements dated April 3, 1998.

The permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and civil penalty. Please read all permit conditions carefully.

In evaluating the application and arriving at a final decision to issue this permit, the Department deemed the application complete on April 27, 2000 and solicited written public comments by placing a newspaper advertisement in the Washington Times on August 13, 2001. The thirty-day comment period (provided for in 9 VAC 5-80-270) expired on September 12, 2001 with no comments having been received in this office.

This approval to operate does not relieve Washington Gas of the responsibility to comply with all other local, state and federal permit regulations.

Issuance of this permit is a case decision. The Regulations, at 9 VAC 5-170-200, provide that you may request a formal hearing from this case decision by filing a petition with the Board within 30 days after this permit is mailed or delivered to you. Please consult that and other relevant provisions for additional requirements for such requests.

11/4/01 Dm

Mr. Richard J. Cook
November 20, 2001
Page 2

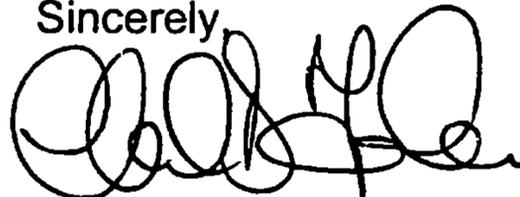
Additionally, as provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date you actually receive this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal to court by filing a Notice of Appeal with:

Dennis Tracey, Director
Department of Environmental Quality
P.O. Box 10009
Richmond, VA. 23240-0009

In the event that you receive this permit by mail, three days are added to the period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia for additional information including filing dates and the required content of the Notice of Appeal.

If you have any questions concerning this permit, please call Chris Meoli at (703) 583-3842.

Sincerely

A handwritten signature in black ink, appearing to read 'C. Forbes', written in a cursive style.

Charles D. Forbes
Regional Permit Manager

Attachment: Permit

Cc: Director, OAPP (electronic file submission)
Manager, Data Analysis (electronic file submission)
Chief, Air Enforcement Branch (3AT13), U.S. EPA, Region III



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

James S. Gilmore, III
Governor

John Paul Woodley, Jr.
Secretary of Natural Resources

Northern Virginia Regional Office
13901 Crown Court
Woodbridge, VA 22193-1453
(703) 583-3800 fax (703) 583-3801
<http://www.deq.state.va.us>

Dennis H. Treacy
Director

Gregory L. Clayton
Regional Director

Virginia Title V Operating Permit

Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, and 9 VAC 5-80-50 through 9 VAC 5-80-300 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

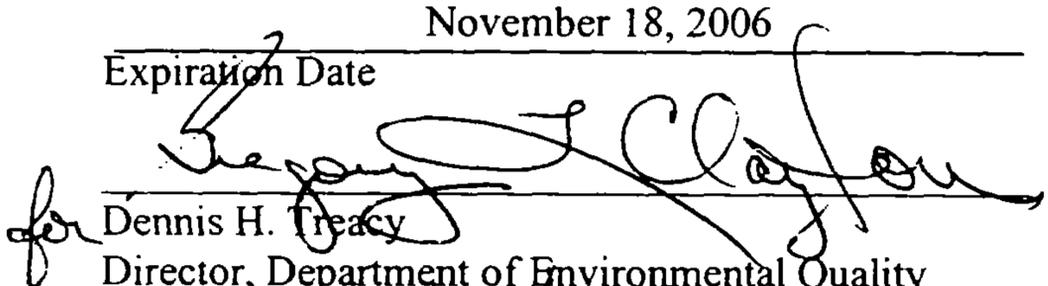
Permittee Name: Washington Gas
Facility Name: Springfield Operations Center
Facility Location: 6801 Industrial Road
Springfield, Virginia 22151
Registration Number: 70151
Permit Number: NVRO70151

November 19, 2001

Effective Date

November 18, 2006

Expiration Date

for 
Dennis H. Treacy
Director, Department of Environmental Quality

Signature Date

11/19/01

Table of Contents, 2 pages
Permit Conditions, 26 pages

Table of Contents

I. FACILITY INFORMATION	4
II. EMISSION UNITS	5
III. INTERNAL COMBUSTION ENGINE REQUIREMENTS (EMISSION UNITS 01, 02, 04, 05, 07, AND 08)	7
A. LIMITATIONS	7
B. MONITORING AND CORRECTIVE ACTIONS	7
C. RECORDKEEPING	9
D. TESTING	10
E. REPORTING	11
IV. BOILERS - (EMISSION UNITS 03, 06, AND 09)	12
A. LIMITATIONS	12
B. MONITORING	12
C. RECORDKEEPING	12
D. TESTING	13
V. INSIGNIFICANT EMISSION UNITS	14
VI. PERMIT SHIELD & INAPPLICABLE REQUIREMENTS	15
VII. GENERAL CONDITIONS	16
A. FEDERAL ENFORCEABILITY	16
B. PERMIT EXPIRATION	16
C. RECORDKEEPING AND REPORTING	17
D. ANNUAL COMPLIANCE CERTIFICATION	18
E. PERMIT DEVIATION REPORTING	19
F. FAILURE/MALFUNCTION REPORTING	19
G. SEVERABILITY	19
H. DUTY TO COMPLY	19
I. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE	19
J. PERMIT ACTION FOR CAUSE	19
K. PROPERTY RIGHTS	20
L. DUTY TO SUBMIT INFORMATION	20
M. DUTY TO PAY PERMIT FEES	21
N. FUGITIVE DUST EMISSION STANDARDS	21
O. STARTUP, SHUTDOWN, AND MALFUNCTION	22
P. ALTERNATIVE OPERATING SCENARIOS	22
Q. INSPECTION AND ENTRY REQUIREMENTS	22
R. REOPENING FOR CAUSE	23
S. PERMIT AVAILABILITY	23
T. TRANSFER OF PERMITS	23
U. MALFUNCTION AS AN AFFIRMATIVE DEFENSE	24
V. PERMIT REVOCATION OR TERMINATION FOR CAUSE	25
W. DUTY TO SUPPLEMENT OR CORRECT APPLICATION	25
X. STRATOSPHERIC OZONE PROTECTION	25
Y. ACCIDENTAL RELEASE PREVENTION	25
Z. CHANGES TO PERMITS FOR EMISSIONS TRADING	25

AA. EMISSIONS TRADING 26
APPENDIX A – NO_x RACT PARAMETRIC MONITORING PLAN

I. Facility Information

Permittee

Washington Gas
6801 Industrial Road
Springfield, VA 22151

Responsible Official

Richard J. Cook
Vice President of Operations Technical Support

Facility

Springfield Operations Center
6801 Industrial Road
Springfield, VA 22151

Contact Person

Tanya Minto
Section Leader – Environment, Safety and Environment
(703) 750-5972

AIRS Identification Number: 51-059-0056

Facility Description: SIC Code 4924 – All electricity, space and water heating, and air conditioning needs at the Springfield Operations Center are provided by the Co-generation Plant located on site. The Co-generation Plant consists of six (6) generators each driven by a natural gas-fired Caterpillar engine with a nameplate rating of 930 horsepower (857 hp de-rated value), and three (3) natural gas-fired Cleaver Brooks heat recovery boilers, each rated at 10.46 million BTU per hour. The units are configured such that two generators are linked to one boiler resulting in three sets of two generators and one boiler. The exhaust gases from each set of two generators vent to a single boiler for recovery of heat and eventual exit through a single boiler stack. Each generator exhaust column is equipped with a Johnson Matthey Catalytic Converter to control oxides of nitrogen. Auxiliary equipment consists of a natural gas-fired Hitachi Chiller, rated at 9.6 million BTU per hour, a diesel-fired Cummins Emergency Generator rated at 268 horsepower and a diesel-fired Volvo Emergency Generator rated 749 horsepower.

II. Emission Units

Equipment to be operated consists of:

Emission Unit (EU) ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
01	01	Caterpillar Generator No. 1, Model G399 engine, natural gas-fired (began operation in 1969)	930 horsepower	Johnson Matthey Catalytic Converter on Emission Unit 01 exhaust	011	NO _x	NO _x RACT Consent Agreement dated 4/3/98
02	01	Caterpillar Generator No. 2, Model G399 engine, natural gas-fired (began operation in 1969)	930 horsepower	Johnson Matthey Catalytic Converter on Emission Unit 02 exhaust	012	NO _x	NO _x RACT Consent Agreement dated 4/3/98
03	01	Cleaver Brooks Boiler No. 1, natural gas-fired (began operation in 1969)	10.46 MMBtu/hr	---	---	---	None
04	02	Caterpillar Generator No. 3, Model G399 engine, natural gas-fired (began operation in 1969)	930 horsepower	Johnson Matthey Catalytic Converter on Emission Unit 04 exhaust	013	NO _x	NO _x RACT Consent Agreement dated 4/3/98
05	02	Caterpillar Generator No. 4, Model G399 engine, natural gas-fired (began operation in 1969)	930 horsepower	Johnson Matthey Catalytic Converter on Emission Unit 05 exhaust	014	NO _x	NO _x RACT Consent Agreement dated 4/3/98
06	02	Cleaver Brooks Boiler No. 2, natural gas-fired (began operation 1969)	10.46 MMBtu/hr	---	---	---	None

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
07	03	Caterpillar Generator No. 5, Model G399 engine, natural gas-fired (began operation in 1969)	930 horsepower	Johnson Matthey Catalytic Converter on Emission Unit 07 exhaust	015	NO _x	NO _x RACT Consent Agreement dated 4/3/98
08	03	Caterpillar Generator No. 6, Model G399 engine, natural gas-fired (began operation in 1969)	930 horsepower	Johnson Matthey Catalytic Converter on Emission Unit 07 exhaust	016	NO _x	NO _x RACT Consent Agreement dated 4/3/98
09	03	Cleaver Brooks Boiler No. 3, natural gas-fired (began operation in 1969)	10.46 MMBtu/hr	---	---	---	None

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

III. Internal Combustion Engine Requirements – (Emission Units 01, 02, 04, 05, 07 and 08)

The primary intent of this Section of the permit is to provide the NO_x RACT requirements which apply to Emission Units (EU) 01, 02, 04, 05, 07, and 08 under two Consent Agreements reached between Washington Gas and DEQ. The Consent Agreement was approved by EPA and incorporated into Virginia's State Implementation Plan (SIP). This section provides the details of the RACT requirement pertaining to the engines and includes a detailed periodic monitoring plan.

A. Limitations

1. Emissions of oxides of nitrogen (NO_x) from each internal combustion engine (EU 01, 02, 04, 05, 07, and 08) shall not exceed 2.0 grams per horsepower-hour. The NO_x emission rate shall be achieved by operation of Nonselective Catalytic Reduction and automatic air/fuel ratio controllers on each of the six engines.
(9 VAC 5-80-110, and Condition E.2 of 04/03/98 RACT Consent Agreement identified as NVRO-031-98)

B. Monitoring and Corrective Actions

1. As part of periodic monitoring to provide a reasonable assurance of compliance with the NO_x limit established in Condition III.A.1, determine the load of each internal combustion engine (EU 01, 02, 04, 05, 07, and 08) and measure differential temperature across the catalyst bed of each exhaust stack (Stack ID 01, 02, 04, 05, 07, and 08) at least once daily. Compare the results to the curves which plot differential temperature versus engine load, as established under Condition E.4 of the RACT Consent Agreement dated April 4, 1998 (NVRO-031-98) and approved as the RACT parametric monitoring plan dated June 11, 1999. [The parametric monitoring plan is contained in Appendix A to this permit]. If observed differential temperature is below the differential temperature versus engine load curve, the following corrective actions shall be taken:
 - a. Verify that all thermocouple wiring and connections are secure.
 - b. If the differential temperature is still below curve, measure pre and post catalyst NO_x emissions using a properly calibrated and certified portable NO_x analyzer. The testing shall be conducted using test methods and procedures approved in advance by DEQ. If post-catalyst NO_x emissions are greater than 550 parts per million (ppm), perform engine diagnostics to include the catalyst system.
 - c. If the catalyst system appears to be performing properly, adjust the air-to-fuel ratio of the engine and re-measure differential temperature and NO_x emissions. If the differential temperature remains below the curve, continue to troubleshoot the

engine and catalyst system, and make adjustments and repairs as necessary. If the catalyst system does not appear to be operating properly, consult the manufacturer to determine if the catalyst needs to be regenerated or to acquire other instructions.

- d. Discontinue operation of the affected engine for primary production purposes, except during engine diagnostics, until differential temperature is above curve.

(9 VAC 5-80-110 E and Condition E.4 of 4/03/98 RACT Consent Agreement identified as NVRO-031-98)

2. As part of periodic monitoring to provide a reasonable assurance of compliance with the NO_x limit established in Condition III.A.1, determine load on each internal combustion engine (EU 01, 02, 04, 05, 07, and 08) and measure differential pressure across the catalyst bed of each exhaust stack (Stack ID 01, 02, 04, 05, 07, and 08) at least once daily. Compare the results to the curve which plots differential pressure versus engine load, as established under Condition E.4 of the RACT Consent Agreement dated April 4, 1998 (identified as NVRO-031-98), and approved as the RACT parametric monitoring plan dated June 11, 1999. [The parametric monitoring plan is contained in Appendix A to this permit]. If observed differential pressure is above the differential pressure versus engine load curve, the following corrective actions shall be taken:
 - a. Measure the differential pressure with a calibrated gauge with connections that are clear of any obstructions, condensation, etc.
 - b. If the differential pressure is still above the curve, measure pre and post catalyst NO_x emissions using a properly calibrated and certified portable NO_x analyzer. The testing shall be conducted using test methods and procedures approved in advance by DEQ. If post-catalyst NO_x emissions are greater than 550 ppm, perform engine diagnostics to include the catalyst system.
 - c. If the catalyst appears to be performing properly, adjust the air-to-fuel ratio of the engine and re-measure differential pressure and NO_x emissions. If pressure is still above the curve and NO_x emissions are greater than 550 ppm, continue to troubleshoot the engine and catalyst system, and make adjustments and repairs as necessary. If the catalyst system does not appear to be operating properly and NO_x emissions are below 550 ppm, consult the manufacturer to determine if the catalyst needs to be regenerated or to acquire other instructions.
 - d. Discontinue operation of the affected engine for primary production purposes, except during engine diagnostics, until differential pressure is below curve.

If the initial observed differential pressure is below 1.5 inches of water column, begin troubleshooting the system to determine the cause of the significant loss of pressure. Discontinue operation of the affected engine for primary production purposes until

the source of the loss of pressure is discovered and corrected.

(9 VAC 5-80-110 E and Condition E.4 of 04/03/98 RACT Consent Agreement identified as NVRO-031-98)

3. At least once every six months, the permittee shall measure NO_x emissions at the inlet and outlet of the catalyst of each internal combustion engine exhaust stack (Stack ID 01, 02, 04, 05, 07, and 08) using a properly calibrated and certified NO_x analyzer. Emissions shall be reported in appropriate units to demonstrate compliance with the emission limit established in Condition III.A.1. The testing shall be conducted using test methods and procedures approved in advance by DEQ. The details of the test are to be arranged with the Air Compliance Manager, Northern Virginia Regional Office. The results of the measurements shall be made available for inspection by the DEQ and should be current for the most recent five years.

(9 VAC 5-80-110 E)

4. At least once every six months, using the NO_x measurements determined in accordance with Condition III.B.3, verify the differential temperature and pressure curves associated with Conditions III.B.1 and III.B.2. The curves shall be verified at engine outputs of 400 kW, 500 kW and 600 kW, and be adjusted as appropriate.

(9 VAC 5-80-110 E and Condition E.4 of 04/03/98 RACT Consent Agreement identified as NVRO-031-98)

5. As part of periodic monitoring to provide a reasonable assurance of compliance with the NO_x emission limit in Condition III.A.1 and the visible emission limits contained in Condition IV.A.3, engine emissions shall be controlled by proper operation and maintenance. Engine operators shall be trained in the proper operation of all such equipment. Training shall consist of a review and familiarization of the manufacturer's operating instructions, at minimum.

(9 VAC 5-80-110 E)

C. Record Keeping

1. The permittee shall maintain records of the following:
 - a. Daily differential temperature and pressure readings, and engine load observed in accordance with Conditions III.B.1 and III.B.2;
 - b. All values of differential temperature and pressure, and engine load observed during any periods when corrective actions are being taken in accordance with Conditions III.B.1 and III.B.2;
 - c. Original curves of differential temperature and differential pressure versus engine load established in accordance with Condition E.4 of the RACT Consent Agreement dated April 4, 1998 (identified as NVRO-031-98), and curves of

differential temperature and differential pressure versus engine load adjusted in accordance with Condition III.B.4. of this permit.

All records shall be available for inspection by DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110 E and Condition E.5 of 04/03/98 Consent Agreement identified as NVRO-031-98)

2. The permittee shall document all NO_x emissions results associated with Conditions III.B.1, III.B.2 and III.B.3. When performing testing in accordance with Condition III.B.3, the permittee shall record all process parameters necessary to demonstrate compliance with the NO_x emission limit in Condition III.A.1. Process parameters to record shall include the following:
 - a. Engine load, reported in hp;
 - b. The average exhaust gas volumetric flow rate per stack;
 - c. The quantity of fuel consumed by the engine during the emissions measurement;
 - d. duration of the measurement.

All records shall be available for inspection by DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110 E)

3. The permittee shall maintain records of the consumption of natural gas by each of the internal combustion engines (EU 01, 02, 04, 05, 07, and 08), calculated monthly as the sum of each consecutive twelve-month period; and other emissions data and operating parameters necessary to allow calculation of annual criteria pollutant emissions. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110 H)
4. The permittee shall maintain records of the operator training required in Condition III.B.5, including a statement of time, place, and nature of training. In addition, the permittee shall maintain records of all scheduled and unscheduled maintenance. These records shall be available on site for inspection by DEQ and shall be up to date for the most recent five years. Operator training records shall be kept up to date for the current operators.

(9 VAC 5-80-110 E)

D. Testing

1. At least once during the five-year term of this federal operating permit, the permittee shall conduct an EPA reference method compliance test for NO_x at the catalyst outlet

on a minimum of two internal combustion engine exhaust stacks (Stack ID 01, 02, 04, 05, 07, and 08) to determine compliance with the limit contained in Condition III.A.1. The actual units tested shall be selected by the Air Compliance Manager, Northern Virginia Regional Office. The compliance testing shall be conducted in accordance with EPA Methods 7 and 7E, or other procedures approved in advance by the Air Compliance Manager, Northern Virginia Regional Office. The details of the test shall be arranged with the Air Compliance Manager, Northern Virginia Regional Office, including submission of a test protocol at least thirty days prior to the test.
(9 VAC 5-80-110)

2. If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method (40 CFR Part 60, Appendix A)
Visible Emission	EPA Method 9

E. Reporting

1. Reporting of emission excursions above an applicable standard shall be conducted in accordance with the permit deviation reporting procedures in Condition VII.E.
(9 VAC 5-80-110)
2. Two copies of the compliance test results from the testing required in Condition III.D.1 shall be submitted to the Air Compliance Manager, Northern Virginia Regional Office, within forty-five days of completing the test.
(9 VAC 5-80-110)
3. The general requirements and procedures set forth in Section VII, Conditions C through F of this permit shall be followed with respect to additional reporting requirements for the internal combustion engines.
(Condition E.5 of 04/03/98 Consent Agreement identified as NVRO-031-98 and 9 VAC 5-80-110)

IV. Boilers – (Emission Units 03, 06, and 09)

A. Limitations

1. Emissions from the operation of all boilers combined shall not exceed the following:

Particulate Matter (PM)	0.3 lb/MMBtu	(9 VAC 5-40-900 A)
Sulfur Dioxide (SO ₂)	33.3 lb/hr	(9 VAC 5-40-930 A(2))

2. Particulate Matter (PM) emissions from each boiler (EU 03, 06, and 09) shall not exceed 3.1 lb/hr.
(9 VAC 5-40-900 B)
3. Visible emissions from each of the boiler stacks (Stack ID 01, 02 and 03) shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity. Note that the exhaust from Stack 01 also includes exhaust from Emission Units 01 and 02; the exhaust from Stack 02 also includes exhaust from Emission Units 04 and 05; and the exhaust from Stack 03 also includes exhaust from Emission Units 07 and 08.
(9 VAC 5-40-940 B and 9 VAC 5-80-110)

B. Monitoring

1. As part of periodic monitoring to provide reasonable assurance of compliance with the emission limits contained Conditions IV.A.1, IV.A.2, and IV.A.3, boiler emissions shall be controlled by proper operation and maintenance. Boiler operators shall be trained in the proper operation of all such equipment. Training shall consist of a review and familiarization of the manufacturer's operating instructions, at minimum.
(9 VAC 5-80-110 E)

C. Record Keeping

1. The permittee shall maintain records of the consumption of natural gas by each boiler (EU 03, 06, and 09), calculated monthly as the sum of each consecutive 12-month period; and other emissions data and operating parameters necessary to allow calculation of annual criteria pollutant emissions. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-110 H)
2. The permittee shall maintain records of the operator training required in Condition IV.B.1. including a statement of time, place, and nature of training. In addition, the permittee shall maintain records of all scheduled and unscheduled maintenance on the boilers. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years. Operator training records shall be kept

up to date for the current operators.
(9 VAC 5-80-110 E)

D. Testing

1. If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method (40 CFR Part 60, Appendix A)
SO ₂	EPA Method 6
Particulate Matter	EPA Method 5, 17
Visible Emission	EPA Method 9

(9 VAC 5-80-110)

V. Insignificant Emission Units

The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
10	Hitachi chiller	9 VAC 5-80-720C	PM/PM ₁₀ , SO ₂ , NO _x , CO, VOC	9.2 MMBtu/hr
12	Cummins diesel-fired emergency generator	9 VAC 5-80-720C	PM/PM ₁₀ , SO ₂ , NO _x , CO, VOC	268 horsepower
13	Miscellaneous natural gas-fired space heating units	9 VAC 5-80-720B	PM/PM ₁₀ , SO ₂ , NO _x , CO, VOC	Each less than 10.0 MMBtu/hr
14	Auto body paint spray booth	9 VAC 5-80-720B	VOC	---
15	Paint Spray Booth	9 VAC 5-80-720B	VOC	---
18	Volvo diesel-fired emergency generator	9 VAC 5-80-720C	PM/PM ₁₀ , SO ₂ , NO _x , CO, VOC	749 horsepower

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

VI. Permit Shield & Inapplicable Requirements

Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit, and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of Applicability
None identified	---	---

Nothing in this permit shield shall alter the provisions of §303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by the administrator pursuant to §114 of the federal Clean Air Act, (ii) the Board pursuant to §10.1-1314 or §10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to §10.1-1307.3 of the Virginia Air Pollution Control Law.

(9 VAC 5-80-140)

VII. General Conditions

A. Federal Enforceability

All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.

(9 VAC 5-80-110 N)

B. Permit Expiration

This permit has a fixed term of five years. The expiration date shall be the date five years from the date of issuance. Unless a timely and complete renewal application consistent with 9 VAC 5-80-80, has been submitted, to the Department, by the owner, the right of the facility to operate shall be terminated upon permit expiration.

1. The owner shall submit an application for renewal at least six months but no earlier than eighteen months prior to the date of permit expiration.
2. If an applicant submits a timely and complete application for an initial permit or renewal under this section, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 1, Part II of 9 VAC 5 Chapter 80, until the Board takes final action on the application under 9 VAC 5-80-150.
3. No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9 VAC 5-80-80 for a renewal permit, except in compliance with a permit issued under Article 1, Part II of 9 VAC 5 Chapter 80.
4. If an applicant submits a timely and complete application under section 9 VAC 5-80-80 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9 VAC 5-80-140, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.
5. The protection under subsections F 1 and F 5 (ii) of section 9 VAC 5-80-80 F shall cease to apply if, subsequent to the completeness determination made pursuant section 9 VAC 5-80-80 D, the applicant fails to submit by the deadline specified in writing by the Board any additional information identified as being needed to process the application.

(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)

C. Recordkeeping and Reporting

1. All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:
 - a. The date, place as defined in the permit, and time of sampling or measurements.
 - b. The date(s) analyses were performed.
 - c. The company or entity that performed the analyses.
 - d. The analytical techniques or methods used.
 - e. The results of such analyses.
 - f. The operating conditions existing at the time of sampling or measurement.

(9 VAC 5-80-110 F)

2. Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

(9 VAC 5-80-110 F)

3. The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than **March 1** and **September 1** of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

- a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31.

(1) All deviations from permit requirements. For purposes of this permit, a "deviation" means any condition determined by observation, data from any monitoring protocol or any other monitoring which is required by the permit that can be used to determine compliance. Deviations include exceedances documented by continuous emission monitoring or excursions from control performance indicators documented through periodic or compliance assurance monitoring.

(9 VAC 5-80-110 F)

D. Annual Compliance Certification

Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than **March 1** each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

1. The time period included in the certification. The time period to be addressed is January 1 to December 31.
2. A description of the means for assessing or monitoring the compliance of the source with its emissions limitations, standards, and work practices.
3. The identification of each term or condition of the permit that is the basis of the certification.
4. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance.
5. Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the certification period.
6. The status of compliance with the terms and conditions of this permit for the certification period.
7. Such other facts as the permit may require to determine the compliance status of the source.

One copy of the annual compliance certification shall be sent to EPA at the following address:

Clean Air Act Title V Compliance Certification (3AP00)
U. S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029.

(9 VAC 5-80-110 K.5)

E. Permit Deviation Reporting

The permittee shall report by the next business day any deviations from permit requirements or any excess emissions, including those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventive measures taken.

(9 VAC 5-80-110 F.2)

F. Failure/Malfunction Reporting

If, for any reason, the affected facilities or related air pollution control equipment fails or malfunctions and may cause excess emissions for more than one hour, the owner shall notify the Air Compliance Manager, Northern Virginia Regional Office, within four daytime business hours of the occurrence. In addition, the owner shall provide a written statement, within fourteen days, explaining the problem, corrective action taken, and the estimated duration of the breakdown/shutdown.

(9 VAC 5-80-180 C)

G. Severability

The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.

(9 VAC 5-80-110 G.1)

H. Duty to Comply

The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.

(9 VAC 5-80-110 G.2)

I. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(9 VAC 5-80-110 G.3)

J. Permit Action for Cause

1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause as specified in 9 VAC 5-80-110 L, 9 VAC 5-80-240 and 9 VAC 5-80-260. The filing of a request by the permittee for a permit modification, revocation and

reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

(9 VAC 5-80-110 G.4)

2. Such changes that may require a permit modification and/or revisions include, but are not limited to, the following:
 - a. Erection, fabrication, installation, addition, or modification of an emissions unit (which is the source, or part of it, which emits or has the potential to emit any regulated air pollutant), or of a source, where there is, or there is potential of, a resulting emissions increase;
 - b. Reconstruction or replacement of any emissions unit or components thereof such that its capital cost exceeds 50% of the cost of a whole new unit;
 - c. Any change at a source which causes emission of a pollutant not previously emitted, an increase in emissions, production, throughput, hours of operation, or fuel use greater than those allowed by the permit, or by 9 VAC 5-80-11, unless such an increase is authorized by an emissions cap; or any change at a source which causes an increase in emissions resulting from a reduction in control efficiency, unless such an increase is authorized by an emissions cap;
 - d. Any reduction of the height of a stack or of a point of emissions, or the addition of any obstruction which hinders the vertical motion of exhaust;
 - e. Any change at the source which affects its compliance with conditions in this permit, including conditions relating to monitoring, recordkeeping, and reporting;
 - f. Addition of an emissions unit which qualifies as insignificant by emissions rate (9 VAC 5-80-720 B) or by size or production rate (9 VAC 5-80-720 C);
 - g. Any change in insignificant activities, as defined by 9 VAC 5-80-90 D.1.a(1) and 9 VAC 5-80-720 B and 9 VAC 5-80-720 C.

(9 VAC 5-80-110 G, 9 VAC 5-80-110 J, 9 VAC 5-80-240, and 9 VAC 5-80-260)

K. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege.
(9 VAC 5-80-110 G.5)

L. Duty to Submit Information

1. The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine

compliance with the permit. Upon request, the permittee shall also furnish to the Board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the Board along with a claim of confidentiality.

(9 VAC 5-80-110 G.6)

2. Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80 G.

(9 VAC 5-80-110 K.1)

M. Duty to Pay Permit Fees

The owner of any source for which a permit under 9 VAC 5-80-50 through 9 VAC 5-80-305 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-355.

(9 VAC 5-80-110 H)

N. Fugitive Dust Emission Standards

During the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;
2. Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;
3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or other similar operations;
4. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and,
5. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

(9 VAC 5-40-90 and 9 VAC 5-50-90)

O. Startup, Shutdown, and Malfunction

At all times, including periods of startup, shutdown, soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(9 VAC 5-50-20)

P. Alternative Operating Scenarios

Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80, Article 1.

(9 VAC 5-80-110 J)

Q. Inspection and Entry Requirements

The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

1. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.
2. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.
3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.
4. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(9 VAC 5-80-110 K.2)

R. Reopening For Cause

The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining permit term of three years or more. Such reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9 VAC 5-80-80 F.

1. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
2. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
3. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-110 D.

(9 VAC 5-80-110 L)

S. Permit Availability

Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request.

(9 VAC 5-80-150 E)

T. Transfer of Permits

1. No person shall transfer a permit from one location to another, unless authorized under 9 VAC 5-80-130, or from one piece of equipment to another.
(9 VAC 5-80-160)
2. In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-160)

3. In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within 30 days of the name change and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-160)

U. Malfunction as an Affirmative Defense

1. A malfunction constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the conditions of paragraph 2 are met.
2. The affirmative defense of malfunction shall be demonstrated by the permittee through properly signed, contemporaneous operating logs, or other relevant evidence that show the following:
 - a. A malfunction occurred and the permittee can identify the cause or causes of the malfunction.
 - b. The permitted facility was at the time being properly operated.
 - c. During the period of malfunction, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit.
 - d. The permittee notified the board of the malfunction within two working days following the time when the emission limitations were exceeded due to the malfunction. This notification shall include a description of the malfunction, any steps taken to mitigate emissions, and corrective actions taken. The notification may be delivered either orally or in writing. The notification may be delivered by electronic mail, facsimile transmission, telephone, or any other method that allows the permittee to comply with the deadline. This notification fulfills the requirements of 9 VAC 5-80-110 F 2 b to report promptly deviations from permit requirements. This notification does not release the permittee from the malfunction reporting requirement under 9 VAC 5-20-180 C.
3. In any enforcement proceeding, the permittee seeking to establish the occurrence of a malfunction shall have the burden of proof. The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any requirement applicable to the source.
4. The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any applicable requirement.

(9 VAC 5-80-250)

V. Permit Revocation or Termination for Cause

A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9 VAC 5 Chapter 80 Article 1. The Board may suspend, under such conditions and for such period of time as the Board may prescribe, any permit for any of the grounds for revocation or termination or for any other violations of these regulations.

(9 VAC 5-80-260)

W. Duty to Supplement or Correct Application

Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.

(9 VAC 5-80-80 E)

X. Stratospheric Ozone Protection

If the permittee handles or emits one or more Class I or II substances subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F.

(40 CFR Part 82, Subparts A-F)

Y. Accidental Release Prevention

If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.

(40 CFR Part 68)

Z. Changes to Permits for Emissions Trading

No permit revision shall be required under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.

(9 VAC 5-80-110 I)

AA. Emissions Trading

Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:

1. All terms and conditions required under 9 VAC 5-80-110, except subsection N, shall be included to determine compliance.
2. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions that allow such increases and decreases in emissions.
3. The owner shall meet all applicable requirements including the requirements of 9 VAC 5-80-50 through 9 VAC 5-80-300.

(9 VAC 5-80-110 I)

APPENDIX A
NOx RACT Parametric Monitoring Plan
Dated June 11, 1999



**Washington
Gas**

6801 Industrial Road
Springfield, Virginia 22151

11 June 1999

Mr. Terry J. Godar, P.E.
Air Permit Manager
Virginia Department of Environmental Quality
13901 Crown Court
Woodbridge, Virginia 22193

RECEIVED
JUN 14 1999

Northern VA. Region
Dept. of Env. Quality

Dear Mr. Godar:

Attached is our revised parametric monitoring plan for our Springfield Operations Center, registration number 70151. If you have any questions or need any additional information, please call me at (703) 750-5558 or Robert Clark at (703) 750-5972.

Sincerely,

A handwritten signature in cursive script that reads "Mary Jean Brady".

Mary Jean Brady
Area Head,
Environment & Quality Assurance

Washington Gas will take daily temperature and pressure readings on each operating engine. Differential pressure readings will be used primarily to determine when the catalyst beds have exhausted or fouled, and secondarily to assess the engine's performance. If the differential pressure observed is below 1.5 inches of water column, Washington Gas will begin troubleshooting the system to determine the cause of the "short circuiting" and the engine will not be used for primary production until the problem is solved. If the differential pressure observed across the catalyst bed is above the differential pressure curve, the following remedial actions will be undertaken.

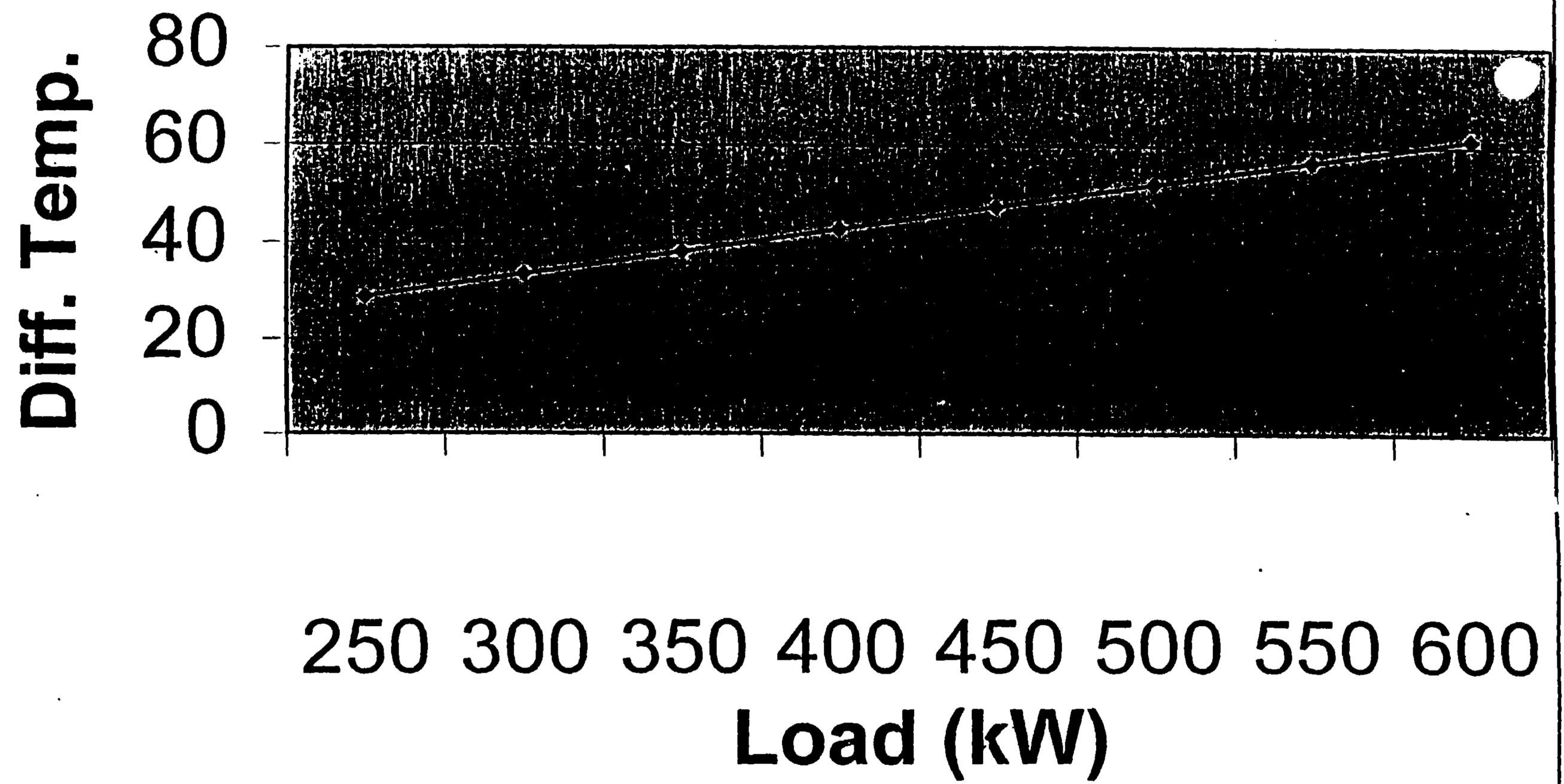
- 1) Measure the differential pressure with a calibrated gauge with connections that are clear of any obstructions, condensation, etc.
- 2) If the pressure is still in excess of the indicated value, use the portable analyzer to measure the NOx emissions to ensure that the pre/post catalyst composition is correct. If NOx emissions are greater than 550 ppm, perform engine diagnostics to include the catalyst system. If emissions are less than 550 ppm, call Johnson Matthey for consultation.
- 3) Adjust engine's air to fuel ratio and re-measure the differential pressure and temperature. Re-measure NOx emissions. If pressure is still excessive, continue engine diagnostics and make necessary repairs. (Only if emissions are greater than 550 ppm)
- 4) Washington Gas will not use the engine for primary production (except during engine diagnostics) until the differential pressure is below the desired value.

Differential temperature readings will provide the means for determining whether or not the reaction within the catalyst is acceptable. If the differential temperature observed across the catalyst bed is below the temperature curve, the following remedial actions will be undertaken.

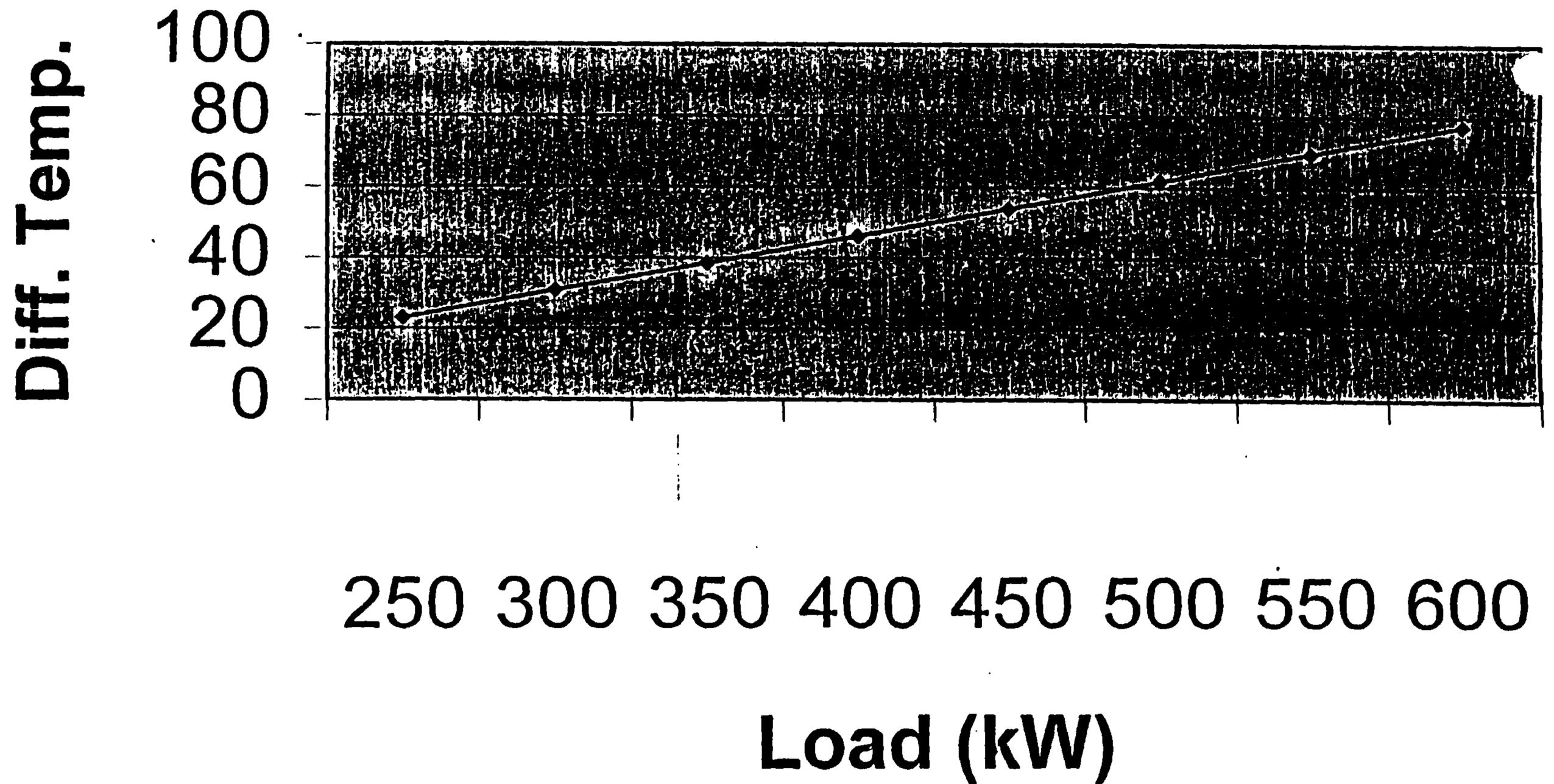
- 1) Verify that all thermocouple wiring and connections are secure and re-check the differential temperature.
- 2) If temperature is still below the desired value, use the portable analyzer to measure the NOx emissions to ensure that the pre/post catalyst composition is correct. If NOx emissions are greater than 550 ppm, perform engine diagnostics to include the catalyst system.
- 3) Adjust the engine's air-fuel ratio and re-measure the differential temperature. If the temperature remains below the curve, continue to troubleshoot the engine and make necessary repairs.
- 4) Washington Gas will not use the engine for primary production (except during engine diagnostics) until the differential temperature is above the desired value.

In addition to the daily readings, Washington Gas will verify the differential temperature curves for each of the six engines every six months, using the portable analyzer. The curves will be verified at 400, 500, and 600 kW. If it is necessary to adjust the curve either up or down, written documentation will be forwarded to the DEQ within 60 days for review and/or comments.

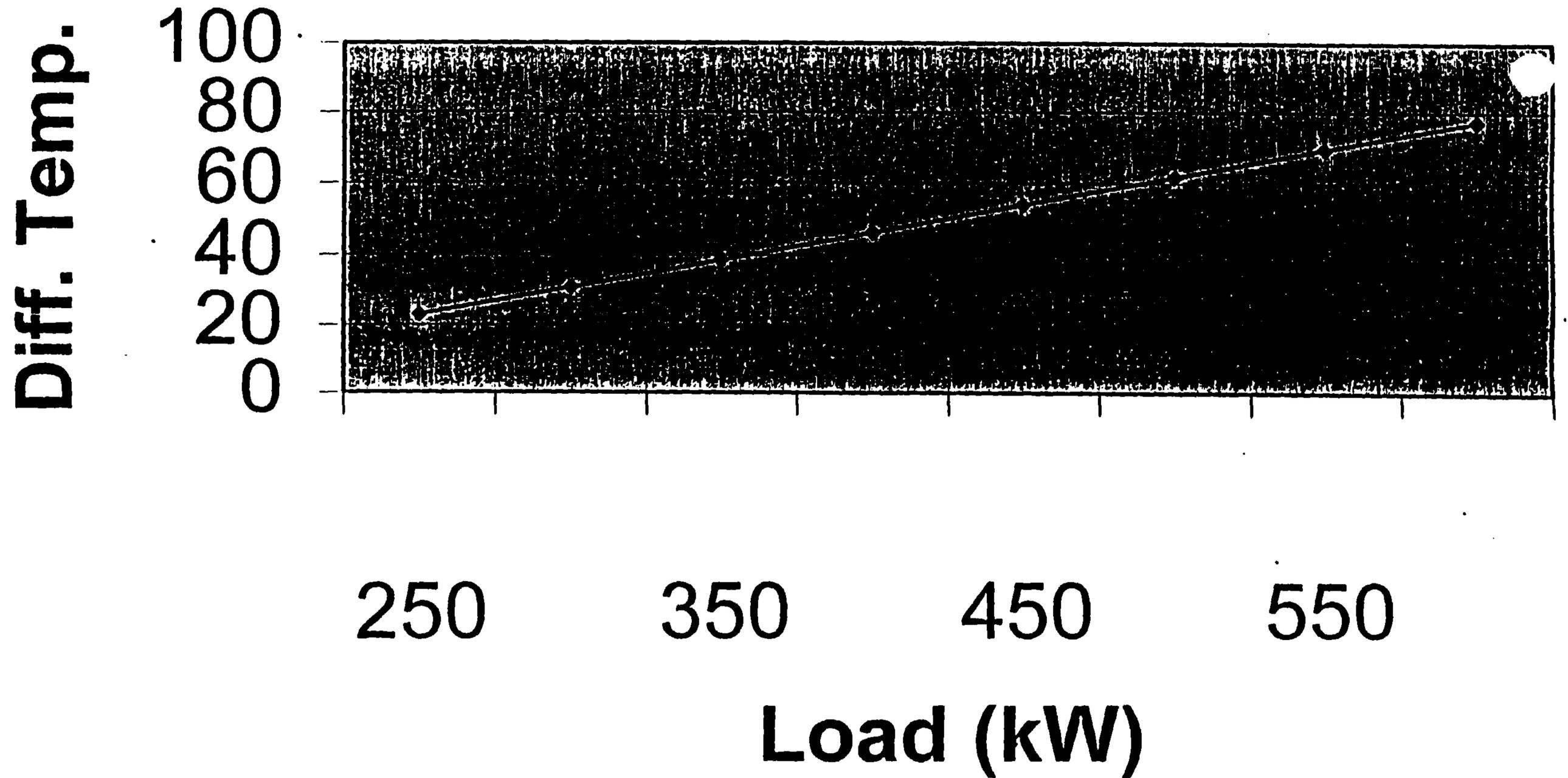
ENGINE 1



ENGINE 2



ENGINE 3

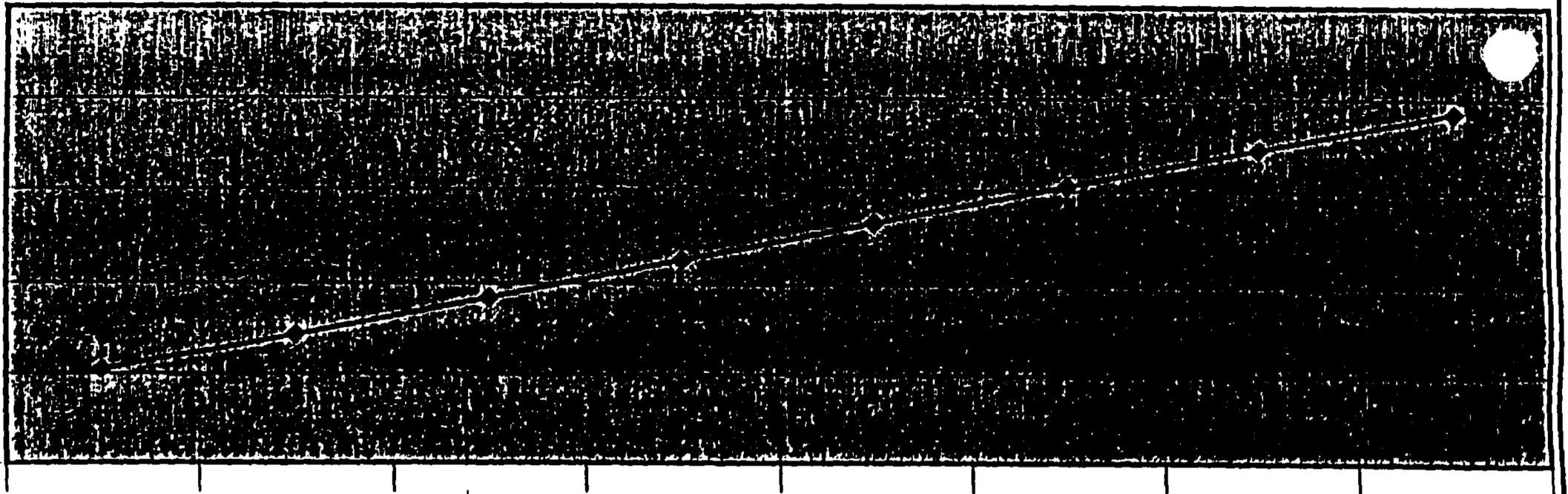


ENGINE 4

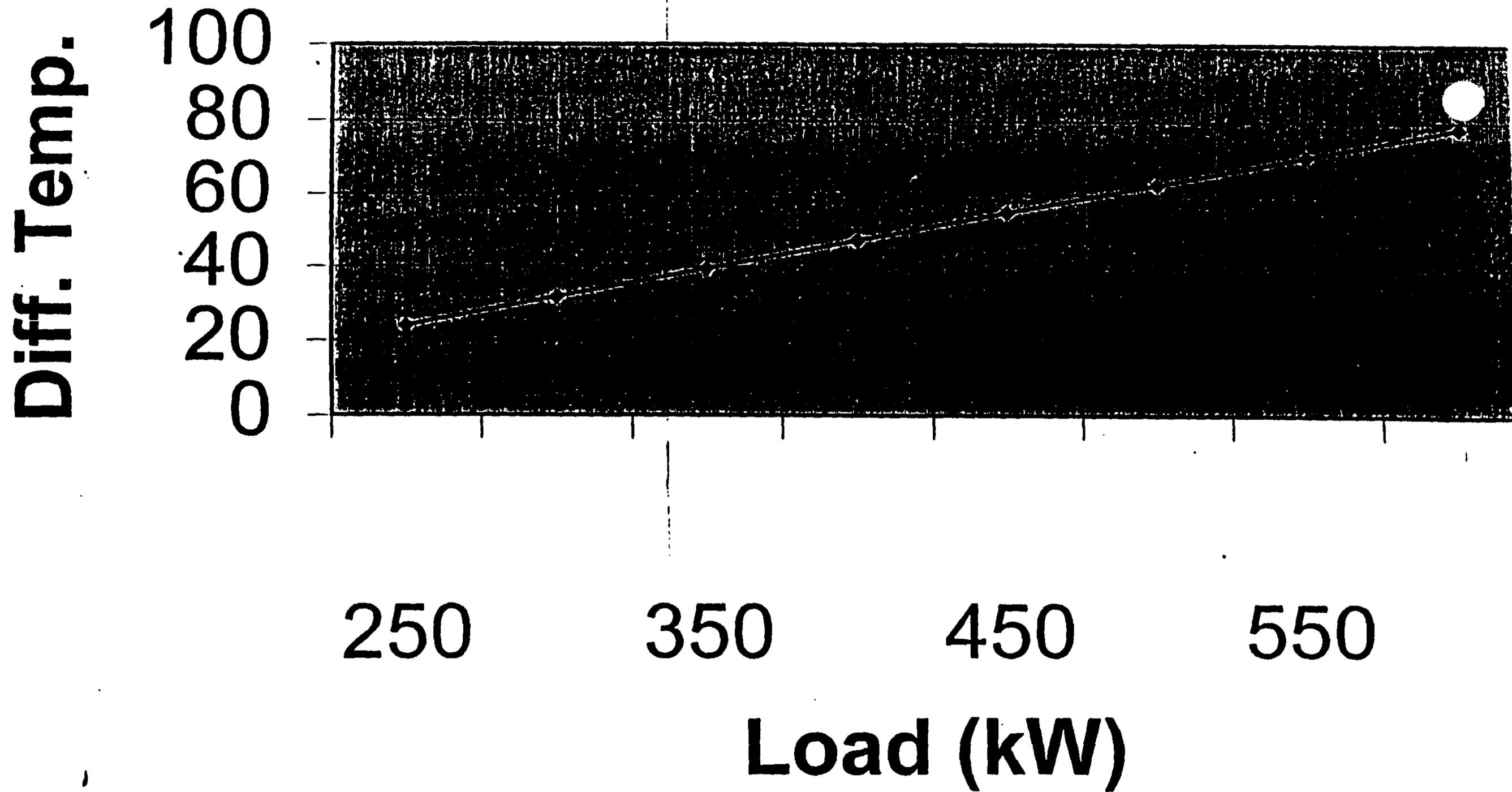
Diff. Temp.
100
80
60
40
20
0

250 300 350 400 450 500 550 600

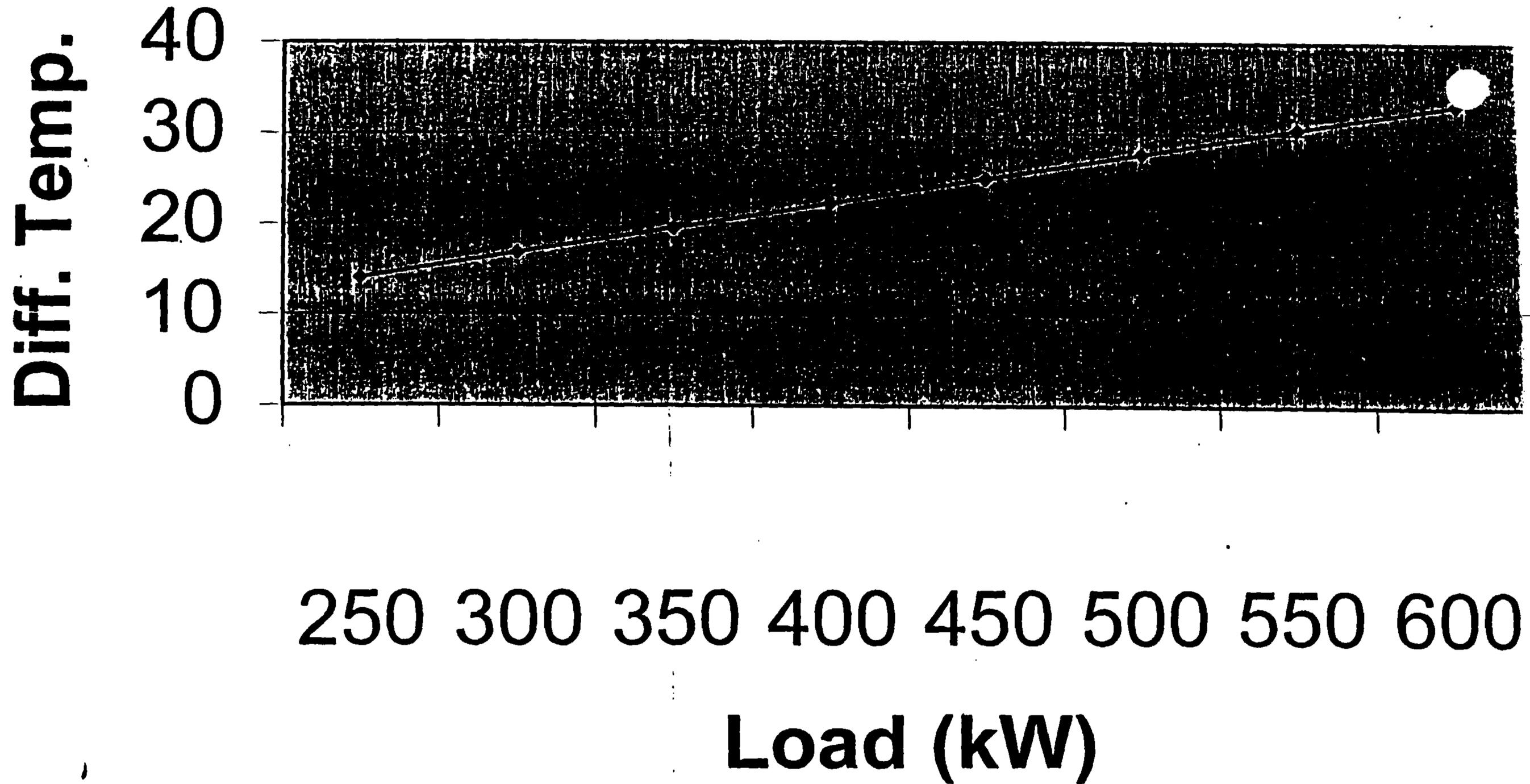
Load (kW)



ENGINE 5



ENGINE 6



Diff. Pressure vs. Loading

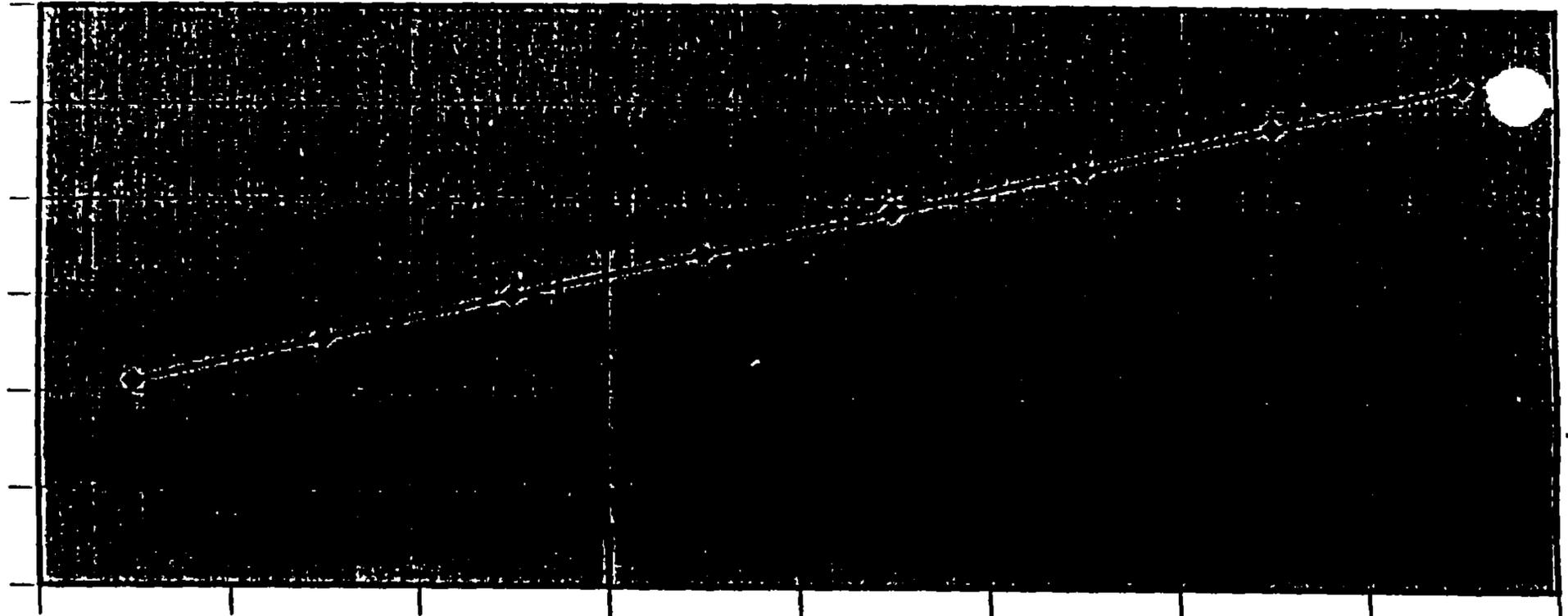
Diff. Pressure

(inches of water column)

6
5
4
3
2
1
0

250 300 350 400 450 500 550 600

Load (kW)



OCR

The following pages contain the Optical Character Recognition text of the preceding scanned images.

NVRO-262-01

COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
Northern Virginia Regional Office
James S. Gilmore, III 13901 Crown Court Dennis H. Treacy
Governor Woodbridge, VA 22193-1453 Director
(703)583-3800 fax (703)583-3801
John Paul Woodley, Jr. <http://www.deq.state.va.us> Gregory L. Clayton
Secretary of Natural Resources Regional Director
November 20, 2001

Mr. Richard J. Cook
Vice President of Technical Operations
Washington Gas - Springfield Operations Center
6801 Industrial Road
Springfield, VA. 22151

Location: Fairfax County
Registration No.: 70151
AIRS No.: 51-059-0056

Dear Mr. Cook:

Attached is a permit to operate your co-generation plant pursuant to 9 VAC 5 Chapter 80 of the Virginia Regulations for the Control and Abatement of Air Pollution. This permit incorporates provisions from the Consent Agreements dated April 3, 1998.

The permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and civil penalty. Please read all permit conditions carefully.

In evaluating the application and arriving at a final decision to issue this permit, the Department deemed the application complete on April 27, 2000 and solicited written public comments by placing a newspaper advertisement in the Washington Times on August 13, 2001. The thirty-day comment period (provided for in 9 VAC 5-80-270) expired on September 12, 2001 with no comments having been received in this office.

This approval to operate does not relieve Washington Gas of the responsibility to comply with all other local, state and federal permit regulations.

Issuance of this permit is a case decision. The Regulations, at 9 VAC 5-170-200, provide that you may request a formal hearing from this case decision by filing a petition with the Board within 30 days after this permit is mailed or delivered to you. Please consult that and other relevant provisions for additional requirements for such requests.

r777"

An Agency of the Natural Resources Secretariat

Mr. Richard J. -jok
November 20, 2001
Page 2

Additionally, as provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date you actually receive this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal to court by filing a Notice of Appeal with:

Dennis Tracey, Director
Department of Environmental Quality
P.O. Box 10009
Richmond, VA. 23240-0009

In the event that you receive this permit by mail, three days are added to the period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia for additional information including filing dates and the required content of the Notice of Appeal.

If you have any questions concerning this permit, please call Chris Meoli at (703) 583-3842.

Sincerely

Chades D. Forbes
Regional Permit Manager

Affachment: Permit

Cc: Director, OAPP (electronic file submission)
Manager, Data Analysis (electronic file submission)
Chief, Air Enforcement Branch (3AT13), U.S. EPA, Region III

COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
Northern Virginia Regional Office
James S. Gilmore, III 13901 Crown Court Dennis H. Treacy
Governor Woodbridge, VA 22193-1453 Director
(703)583-3800 fax (703)583-3801
John Paul Woodley, Jr. <http://www.deq.state.va.us> Gregory L. Clavton
Secretary of Natural Resources Regional Director
Virginia Title V Operating Permit

Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13), 10.1-13.22 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, and 9 VAC 5-80-50 through 9 VAC 5-80-300 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name: Washington Gas
Facility Name: Springfield Operations Center
Facility Location: 6801 Industrial Road
Springfield, Virginia 22151
Registration Number: 70151
Permit Number: NVRO70151

November 19, 2001
Effective Date

17 November 18, 2006
Exp Date

Dennis H. Treacy
Director, Department of Environmental Quality

Signature Date

Table of Contents, 2 pages
Permit Conditions, 26 pages

An Agency of the Natural Resources Secretariat

Washington C -in-field Operatioiis Center
-mItNumber:N%'R0'/0151
P a,-, e 2

Table of Contents

1. FACILITY INFORMATION4

H. EMISSION UNITS

111. INTERNAIL CONIBUSTION ENGINE REQLTIREMY-NTS (ENISSION UNITS 01. 02.04.0
-5.07.

AND 08)7

A. LIMITATIONSS7

B. MONITORING AND CORRECTIVE ACTIONS7

C. RECORDKEEPING --9

D. TESTING I 0

E. REPORTING I I

IV. BOILERS - (EMISSION UNITS 03, 06, AND 09) 1 2

A. LimitATIONS 1 2

B. MONITOPJNG 1 2

C. RECORDKEEPING 1 2

D. TESTING 1 3

V. INSIGNIFICANT EMISSION UNITS 14

VI. PERNIIT SHIELD & INAPPLICABLE REQUIREMENTS 15

VII. GENERAL CONDITIONS 16

A. FEDERAL ENFORCEABILITY 16

B. PERMIT Expiration 16

C. RECORDKEEPING AND REPORTING 1 7

D. ANNUAL COMPLIANCE CERTIFICATION 1 8

E. PERMIT DEVIATION REPORTING 19

F. FAILURE/MALFUNCTION REPOrTFNG 19

G. SEVERABILITY I 9

H. DUTY TO COMPLY 19

I. NEED To HALT OR REDUCE ACTIVITY NOT A DEFENSE I 9

J. PERM IT ACTION FOR CAUSE I 9

K. PROPERTY FJGHTS 2(

L. DUTY TO SUBMIT INFORMATION 2(

M. DUTY TO PAY PERMIT FEES 2 1

N. FUGITIVE DUST EmISSION STANDARDS 2 1

O. STARTUP, SHUTDOWN, AND MALFUNCTION 22

P. ALTERNATIVE OPERATING SCENARIOS 22

Q. INSPECTION AND ENTRY REQUIREMENTS 22

R. REOPENING FOR CAUSE 23

S. PERMITAVAILABILITY- 23

T. TRANSFER OF PERMITS 23

U. MALFUNCTION AS AN AFFIRMATIVE DEFENSE 24

V. PERMIT REVOCATION OR TERMINATION FOR CAUSE 25

W. DUTY TO SUPPLEMENT OR CORRECT APPLICATION 25

X. STRATOSPHERIC OZONE PROTECTION 25

Y. AccIDENTAL RELEASE PREVENTION 25

Z. CHANGES TO PERMITS FOR EmISSIONs TRADING 25

Washington C(- -inafield Operatioiis Ceiter

-VR0701 5 I
-ni
t Number: N

Pas-ye

AA. EmISSIONs TRADING 26
.....

APPENDIX A - NO, RACT PARAMETRIC MONITORING PLAN

Washington C -ingfield Operations Center
.mit Number: NVR070151
Pa2e 4

1. Facility Information

Permittee
Washington Gas
6801 Industrial Road
Spn'ngfield, VA 22151

Responsible Official
Richard J. Cook
Vice President of Operations Technical Support

Facility
Spn'ngfield Operations Center
6801 Industrial Road
Spn'ngf-ield, VA 22151

Contact Person
Tanya Minto
Section Leader - Environment, Safety and Environment
(703) 750-5972

AIRS Identification Number: 51-059-0056

Facility Description: SIC Code 4924 - All electricity, space and water heating, and air conditioning needs at the Springfield Operations Center are provided by the Co-generation Plant located on site. The Co-generation Plant consists of six (6) generators each driven by a natural gas-fired Caterpillar engine with a nameplate rating of 930 horsepower (857 hp de-rated value), and three (3) natural gas-fired Cleaver Brooks heat recovezy boilers, each rated at 10.46 million BTU per hour. The units are configured such that two generators are linked to one boiler resulting in three sets of two generators and one boiler. The exhaust gases from each set of two generators vent to a single boiler for recovery of heat and eventual exit through a single boiler stack. Each generator exhaust column is equ' ed with a Johnson IPP Matthe Catalytic Converter to control oxides of nitrogen. Auxiliary equipment consists of a Y natural gas-fired Hitachi Chiller, rated at 9.6 million BTU per hour, a diesel-fired Cummins Emergency Generator rated at 268 horsepower and a diesel-fired Volvo Emergency Generator rated 749 horsepower.

11. Emission Units

Equipment to be operated consists of.

Emission Unit (EU) ID	Description	Capacity	Device (PCD)	PCD ID	Controlled Date
Fuel Burning Equipment					
01	Caterpillar Generator No. 1, Johnson Matthey NO, RAC'I'				
01	Model G399 engine, natural gas-fired Emission Unit 01	930 horsepower	Catalytic Converter on Oil NO		
	, Consent (began operation in 1969) exhaust 4/3/98				
02	Caterpillar Generator No. 2, Johnson Matthey NO, RAC-1'				
02	Model G399 engine, natural gas-fired Emission Unit 02	930 horsepower	Catalytic Converter on 012 NO,		
	, Consent (began operation in 1969) exhaust 4/3/98				
03	Cleaver Brooks Boiler No. 1,	10.46 MMBtu/hr	---	---	---
	natural gas-fired (began operation in 1969) Noie				
04	Caterpillar Generator No. 3, Johnson Matthey No, IW'T				
04	Model G399 engine, natural gas-fired Emission Unit 04	930 horsepower	Catalytic Converter on Consent	013 NO,	
	Agreement tiate(i (began operation In 1969) exhaust 4/3/98				
05	Caterpillar Generator No. 4, Johnson Matthey No, [W'T				
05	Model G399 engine, natural gas-fired Emission Unit 05	930 horsepower	Catalytic Converter on 014 NO,		
	, Consent (began operation in 1969) exhaust 4/3/98				
06	Cleaver Brooks Boiler No. 2,	10.46 MMBtu/hr	---	---	---
	natural gas-fired (began operatioii 1969) None				

Wasliingtoii Gas Springfield Operatiotis Ceiiter
 Peniit Nuniber: NVR070151
 Pitge 6

Emission Unit ID	Size/Rated Capacity	Pollutant	Control Device (PCD)	Applicable Date	Controlled
07	03	Model G399 engine, natural 930 horsepower	Catalytic Converter	015	NO, Consent
gas-fired Emission Unit 07 Agreciicnt datcd (began operation in 1969) exhaust 4/3/98					
08	03	Model G399 engine, natural 930 horsepower	Catalytic Converter	016	NO, Coilseilt
gas-fired Emission Unit 07 Agi-eciiieit daled (began operation in 1969) exhaust 4/3/98					
09	03	nat Liral gas-fired 10.46 MMBtu/hr	---	---	---
Clever Brooks Boiler No. 3, (began operation in 1969) 1 1 1 1 9					

The Size/Rated capacity is provided for informational purposes otily, and is n ot an applicable requirement.

Washington C @ngfield Operatioiis Center
i _ . mit Number: NA'RO701 5 I
Pai4e 7

111. Internal Combustion Engine Requirements - (Emission Units 01, 02, 04, 05, 07 and 08)

The pn'mary intent of this Section of the permit Is to prov'de the NO, F_,%CT requ'renients NN-h'ch apply to Emission Units (EU) 01, 02, 04, 0-5, 07, and 08 under two Consent A-r eenients reached between Washington Gas and DEQ. The Consent Agreement was approved by EPA and incorporated into Virginia's State Implementation Plan (SIP). This section pr ovides the details of the RACT requirement pertaining to the enaines and includes a detailed pen' odic moniton'nc, plan.

A. Limitations

1. Emissions of oxides of nitrogen (NO,,) from each intemal combustion engine (EU 01, 02, 04, 05, 07, and 08) shall not exceed 2.0 grams per horsepower-hour. The N O, emission rate shall be achieved by operation of Nonselective Catalytic Reducti on and automatic air/fuel ratio controllers on each of the six engines. (9 VAC 5-80-1 10, and Condition E-2 of 04/03/98 RACT Consent Agreement identified as NVRO-031-98)

B. Monitoring and Corrective Actions

I .As part of periodic moniton'ng to provide a reasonable assurance of complia nce with the NO,, limit established in Condition III.A.1, detennine the load of each in temal combustion engine (EU 01, 02, 04, 05, 07, and 08) and measure differential temperature across the catalyst bed of each exhaust stack (Stack ID 01, 02, 04 , 05, 07, and 08) at least once daily. Compare the results to the curves which plot dif ferential temperature versus engine load, as established under Condition EA of the RACT Consent Agreement dated Apr'l 4, 1998 (NVRO-031-98) and approved as the RACT parametnc moniton'ng plan dated June II, 1999. [The parametn'c moniton'ng plan is contained in Appendix A to this pennit]. If observed differential temperature is below the differential temperature versus engine load curve, the following correctiv e actions shall be taken:

- a. Verify that all thermocouple win'ng and connections are secure.
- b. If the differential temperature Is still below curve, measure pre and post catalyst NO, emissions using a properly calibrated and certified portable NO, analyzer.

The testing shall be conducted using test methods and procedures approved in advance by DEQ. If post-catalyst NO, emissions are greater than 550 parts per

'll'on (ppm), perfon-n engine diagnostics to include the catalyst system.
ml I

- c. If the catalyst system appears to be performing properly, adjust the air-to-fuel

ratio of the engine and re-measure differential temperature and NO_x emissions
. If
the differential temperature remains below the curve, continue to troubleshoot
the

Washin-ton C -incrfield Operations Center
-milt Number: NN'RO701 @ I
Pa2e S

d repa'
engine and catalyst system, and make ad' rv. If the
justments an irs as necessa .
catalyst system does not appear to be operatin- properly, consult the nianufac
turer
ID
to determine if the catalyst needs to be regenerated or to acquire other
instructions.

d. Discontinue operation of the affected engine for pn'mary production purpose
s,
except du 'n- eng'ne d'a 'cs, unt'l d'fferent'al temperature 's above curve.
n I I gnostl I I I

(9 VAC 5-80-1 1 0 E and Condition EA of 4/03/98 RACT Consent Agreemeit
identified as NVRO-031-98)

2. As part of periodic moniton'ng to provide a reasonable assurance of complia
nce with
the NO,, limit established in Condition III.A. 1, determine load on each intem
al
combustion engine (EU 01, 02, 04, 05, 07, and 08) and measure differential pre
ssure
across the catalyst bed of each exhaust stack (Stack ID 01, 02, 04, 05, 07, an
d 08) at
least once daily. Compare the results to the curve which plots differential p
ressure
versus engine load, as established under Condition EA of the RACT Consent
Agreement dated Apr'l 4, 1998 (identified as NVRO-031-98), and approved as the

RACT parametric monitoring plan dated June 11, 1999. [The parametn'c monitorin
g
plan is contained in Appendix A to this permit]. If observed differential pre
ssure is
above the differential pressure versus engine load curve, the following correc
tinle
actions shall be taken:

a. Measure the differential pressure with a calibrated gauge with connections
that
are clear of any obstructions, condensation, etc.

b. If the differential pressure is still above the curve, measure pre and post
catalyst
NO, emissions using a properly calibrated and certified portable NO, analyzer.

The testing shall be conducted using test methods and procedures approved in
advance by DEQ. If post-catalyst NO., emissions are greater than 550 ppm,
perform engine diagnostics to include the catalyst system.

c. If the catalyst appears to be perfon-ning properly, adjust the air-to-fuel
ratio of the
engine and re-measure differential pressure and NO,, emissions. If pressure i
s still
above the curve and NOx emissions are greater than 550 ppm, continue to
troubleshoot the engine and catalyst system, and make adj'ustments and repairs
as
necessary. If the catalyst system does not appear to be operating properly an
d
NO., emissions are below 550 ppm, consult the manufacturer to determine if the
catalyst needs to be regenerated or to acquire other instructions.

d. Discontinue operation of the affected engine for primary production purposes, except during engine diagnostics, until differential pressure is below curve .

If the initial observed differential pressure is below 1.5 inches of water column, begin troubleshooting the system to determine the cause of the significant loss of pressure. Discontinue operation of the affected engine for primary production purposes until

Washington Gas -rin-field Operations Ceiter
.n-nit Number: NVR07()J i I
P a,-, c

the source of the loss of pressure is discovered and corrected.

(9 VAC 5-80-1 10 E and Condition EA of 04/031198 RACT Consent Agreement identified as NVRO-031-98)

3. At least once every six months, the pen-nittee shall measure NO, emissions at the inlet and outlet of the catalyst of each internal combustion engine exhaust stack (Stack ID

01, 02, 04, 05, 07, and 08) using a properly calibrated and certified NO, analyzer.

Emissions shall be reported in appropriate units to demonstrate compliance with the emission limit established in Condition III.A. I. The tests shall be conducted using

the

test methods and procedures approved in advance by DEQ. The details of the tests are

to be arranged with the Air Compliance Manager, Northern Virginia Regional Office.

The results of the measurements shall be made available for inspection by the DEQ

and should be current for the most recent five years.

(9 VAC 5-80-1 10 E)

4. At least once every six months, using the NO, measurements determined in accordance with Condition 111.13.3, verify the differential temperature and pressure

curves associated with Conditions 111.13.1 and 111.13.2. The curves shall be verified at

engine outputs of 400 kW, 500 kW and 600 kW, and be adjusted as appropriate.

(9 VAC 5-80-1 10 E and Condition EA of 04/03/98 RACT Consent Agreement identified as NVRO-031-98)

5. As part of periodic monitoring to provide a reasonable assurance of compliance with the NO, emission limit in Condition III.A. I and the visible emission limits contained

in Condition IV.A.3, engine emissions shall be controlled by proper operation and

maintenance. Engine operators shall be trained in the proper operation of all such

equipment. Training shall consist of a review and familiarization of the manufacturer's operating instructions, at minimum.

(9 VAC 5-80-1 10 E)

C. Record Keeping

1. The permittee shall maintain records of the following:

a. Daily differential temperature and pressure readings, and engine load observed in accordance with Conditions III.B. I and 111.13.2;

b. All values of differential temperature and pressure, and engine load observed

during any periods when corrective actions are being taken in accordance with Conditions III.B. I and III.B.2;

c. Original curves of differential temperature and differential pressure versus

s engine
load established in accordance with Condition EA of the RACT Consent
Agreement dated Apr'1 4, 1998 (identified as NVRO-031-98), and curves of

Washington Gas -in-field Operations Ceiiter
_,mit Number: ',NXR0701 5 I
Pasze I 0

differential temperature and differential pressure versus engine load adjusted
ill
accordance with Condition III.B.4. of this pen-nit.

All records shall be available for inspection by DEQ and shall be current for
the niost
recent five years.
(9 VAC 5-80-1 10 E and Condition E.5 of 04/03/198 Consent Agreement identified
as
NVRO-031-98)

2. The pen-nittee shall document all NO, emissions results associated with Con
ditions
III.B. 1, III.B.2 and III.B.3. When performinu testine, in accordance with Con
dition

Zp
III.B.3, the pennittee shall record all process parameters necessary to demons
trate
compliance with the NO,, emission limit in Condition III.A. 1. Process paramet
ers to
record shall include the following:

- a. Engine load, reported in hp;
- b. The average exhaust gas volumetrl'c flow rate per stack;
- c. The quantity of fuel consumed by the en-ine during the emissions measuremen
t;
- d. duration of the measurement.

All records shall be available for inspection by DEQ and shall be current for
the most
recent five years.
(9 VAC 5-80-1 1 0 E)

3 . The permittee shall maintain records of the consumption of natural gas by
each of the
internal combustion engines (EU 01, 02, 04, 05, 07, and 08), calculated monthly
as
the sum of each consecutive twelve-month per-iod; and other emissions data and
operating parameters necessary to allow calculation of annual criter-ia pollut
ant
emissions. These records shall be available on site for inspection by the DEQ
and
shall be current for the most recent five years.
(9 VAC 5-80-1 1 0 H)

4. The perinittee shall maintain records of the operator training required in
Condition
III.B.5, including a statement of time, place, and nature of training. In add
ition, the
permittee shall maintain records of all scheduled and unscheduled maintenance.

These records shall be available on site for inspection by DEQ and shall be up
to date
for the most recent five years. Operator trainin- records shall be kept up to
date for
.D
the current operators.
(9 VAC 5-80-1 1 0 E)

D. Testing

1. At least once during the five-year term of this federal operating permit, the permittee shall conduct an EPA reference method compliance-test for NO_x at the catalyst outlet

Washington Gas inofield Operations Center

-ml

tNurnber:N1VR0701S1

Pa-e I I

on a minimum of two intemal combustion engine exhaust stacks (Stack ID 01, 0" 04.

05, 07, and 08) to detennine conipliance with the limit contained in Condition III.A. 1.

The actual units tested shall be selected by the Air Compliance Mana-er, North em

Virginia Regional Office. The compliance testing shall be conducted in accord ance

with EPA Methods 7 and 7E, or other procedures approved in advance by the Air Compliance Manger, Northem Vir-'n'a Re-Iona] Office. The details of the test shall

I I

be arranged with the Air Compliance Manager, Northem Virginia Re-lonal Office,

including submission of a test protocol at least thirty days prior to the test

(9 VAC 5-80-1 10)

2 If testing is conducted in addition to the monitoring specified in this perm it, the

permittee shall use the following methods in accordance with procedures approv ed by

the DEQ as follows:

Pollutant Test Method

(40 CFR Part 60, Appendix A)

Visible Emission EPA Method 9

E. Reporting

1. Reporting of emission excursions above an applicable standard shall be cond ucted in

accordance with the pen-nit deviatl'on reporting procedures in Condition VII.E

(9 VAC 5-80-1 1 0)

2. Two copies of the compliance test results from the testing required in Cond ition

III.D. I shall be submitted to the Air Compliance Manager, Northem Virginia Regional Office, within foTty-five days of completing the test.

(9 VAC 5-80-1 1 0)

3. The general requirements and procedures set forth in Section VII, Condition s C

through F of this pennit shall be followed with respect to additional reportin g

requirements for the intemal combustion engines.

(Condition E.5 of 04/03/98 Consent Agreement identified as NVRO-031-98 and 9 VAC 5-80-1 10)

Washington Gas Field Operations Center
Permit Number: NVR070151
Page 1.2

IV. Boilers - (Emission Units 03, 06, and 09)

A. Limitations

1. Emissions from the operation of all boilers combined shall not exceed the following:

Particulate Matter (PM) 0.3 lb/MMBtu (9 VAC 5-40-900 A)

Sulfur Dioxide (SO₂) 33.3 lb/hr (9 VAC 5-40-930 A(2))

2. Particulate Matter (PM) emissions from each boiler (EU 03, 06, and 09) shall not exceed 3.1 lb/hr.
(9 VAC 5-40-900 B)

3. Visible emissions from each of the boiler stacks (Stack ID 01, 02 and 03) shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity. Note that the exhaust from Stack 01 also includes exhaust from Emission Units 01 and 02; the exhaust from Stack 02 also includes exhaust from Emission Units 04 and 05; and the exhaust from Stack 03 also includes exhaust from Emission Units 07 and 08.
(9 VAC 5-40-940 B and 9 VAC 5-80-1 10)

B. Monitoring

1. As part of periodic monitoring to provide reasonable assurance of compliance with the emission limits contained Conditions IV.A. 1, IV.A.2, and IV.A.3, boiler emissions shall be controlled by proper operation and maintenance. Boiler operators shall be trained in the proper operation of all such equipment. Training shall consist of a review and familiarization of the manufacturer's operating instructions, at minimum.
(9 VAC 5-80-1 10 E)

C. Record Keeping

1. The permittee shall maintain records of the consumption of natural gas by each boiler (EU 03, 06, and 09), calculated monthly as the sum of each consecutive 12-month period; and other emissions data and operating parameters necessary to allow calculation of annual criteria pollutant emissions. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-1 10 H)

2. The permittee shall maintain records of the operator training required in Condition IV.B. 1. including a statement of time, place, and nature of training. In addition, the permittee shall maintain records of all scheduled and unscheduled maintenance

on the
boilers. These records shall be available on site for inspection by the DEQ a
nd shall
be current for the most recent five (5) years. Operator training records shal
l be kept

Washington Gas -lingfield Operations Center
..Tnit Number: NVR070151
Pac,e I')

up to date for the current operators.
(9 VAC 5-80-1 10 E)

D. Testing

1. If testing is conducted in addition to the monitoring specified in this pem
ilt. the
permittee shall use the followinc, test methods in accordance with procedures
approved by the DEQ as follows:

Pollutant Test Method
(40 CFR Part 60. Appendix A)
so, EPA Method 6
Particulate Matter EPA Method 5. 17
Visible Emission EPA Method 9

(9 VAC 5-80-1 10)

'I
Washington Gas ' 'n-field Operations Ceiiter
i mit N, uniber: NVR0701 5 I
Pa-e 14

V. Insignificant Emission Units

The followin- emission units at the facility are identified in the applicatioi
i as
'ficant em'ss'on un'ts under 9 VAC 5-80-720:
insigni I I I

Pollutant(s)
Emission Unit Citation Emitted (9 VAC -5- Rated Capacity
Unit No. Description 80-720 B) (9 VAC 5-80-720 C)

- 10 Hitacbj chiller 9 VAC 5-80-720C PM/PM'0' SO, 9.2 NIMBtuihr
NO,, CO, VOC_
- 12 Cummins diesel-fired 9 VAC 5-80-720C PM/PM10' SO" 268 horsepower
emergency generator NO,, CO, VOC
- Miscellaneous natural PM1PM'0' SO,. Each less than
- 13 gas-fired space heating 9 VAC 5-80-720B
units NO,, CO, VOC I 0.0 MMBtu/hr
- 14 Auto body paint spray 9 VAC 5-80-720B voc
booth
- 15 Paint Spray Booth 9 VAC 5-80-720B voc ---
- 18 Volvo diesel-fired 9 VAC 5-80-720C PM/PM10' So" 749 horsepower
emergency generator NO,, CO, VOC

These emission units are presumed to be in compliance with all requirements of
the
federal Clean Air Act as may apply. Based on this presumption, no moniton'no
't"
recordkeeping, or reporting shall be required for these emission units in acco
rdance with
9 VAC 5-80-1 10.

Washington Gas -intzfield Operations Center
-mit Number: N\ 'RO701 -S I
Pwze I 5

VI. Permit Shield & Inapplicable Requirements

Compliance with the provisions of this pemilt shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this pennit. This permit shield covers only those applicable requirements Covered by ten-ns and conditions in this permit, and the followin- requirements which have been Z) 'fically 'dentified as being not applicable to th's penn'tted facilltv: speci I I I

Citation Title of Citation Description of Applica!@j
None identified

Nothing in this permit shield shall alter the provisions of 303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by the administrator pursuant to 114 of the federal Clean Air Act, (11) the Board pursuant to 10. I -1 314 or I 0. I - 1 315 of the Virginia Air Pollution Control Law or (11ii) the Department pursuant to 10. I - 1 307.3 of the Virginia Air Pollution Control Law.
(9 VAC 5-80-140)

Washington Gas Operations Center
Title
Permit Number: I%AIR0701 5 I
Part 16

VI 1. General Conditions

A. Federal Enforceability

All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.
(9 VAC 5-80-1 1 0 N)

B. Permit Expiration

This permit has a fixed term of five years. The expiration date shall be the date five years from the date of issuance. Unless a timely and complete renewal application consistent with 9 VAC 5-80-80, has been submitted, to the Department, by the owner, the right of the facility to operate shall be terminated upon permit expiration.

1. The owner shall submit an application for renewal at least six months but not earlier than eighteen months prior to the date of permit expiration.

2. If an applicant submits a timely and complete application for an initial permit or renewal under this section, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 1, Part 11 of 9 VAC 5 Chapter 80, until the Board takes final action on the application under 9 VAC 5-80-150.

3. No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9 VAC 5-80-80 for a renewal permit, except in compliance with a permit issued under Article 1, Part 11 of 9 VAC 5 Chapter 80.

4. If an applicant submits a timely and complete application under section 9 VAC 5-80-80 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9 VAC 5-80-140, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.

5. The protection under subsections F I and F 5 (1i) of section 9 VAC 5-80-80 shall cease to apply if, subsequent to the completeness determination made pursuant to section 9 VAC 5-80-80 D, the applicant fails to submit by the deadline specified

ed in
writing by the Board any additional information identified as being needed to process
the application.

(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-1 10 D and 9 VAC 5-80-170 B)

Washin-ton Gas -ingfield Operations Ceiiier
mitNumber:NA"R070151
Pa,-,e 1

C. Recordkeeping and Reporting

1. All records of moniton'ng infonnation niaintained to demonstrate compl'ance
XX"til the

I I

tenns and conditions of this pennit shall contain, where applicable. the follo
v"ing:

a. The date, placc as defined in the permit, and time of samplino, or measuren
ients.

b. The date(s) analyses were perfonned.

c. The company or entity that performed the analyses.

d. The analytical techniques or methods used.

e. The results of such analyses.

f The operating conditions existing at the time of sampling or measurement.

(9 VAC 5-80-1 1 0 F)

Records of all monitoring data and support information shall be retained for a
t least

five years from the date of the monitoring sample, measurement, report, or
application. Support infonnation includes all calibration and maintenance rec
ords

and all original stn'p-chart recordings for continuous monitoring instrumentat
ion, and

copies of all reports required by the pennit.

(9 VAC 5-80-1 1 0 F)

3. The pertnittee shall submit the results of monitoring contained in any appl
icable

requirement to DEQ no later than March I and Septernber 1 of each calendar yea
r.

This report must be signed by a responsible official, consistent with 9 VAC 5-
80-80

G, and shall include:

a. The time period included in the report. The time periods to be addressed a
re

January I to June 30 and July I to December 3 1.

(1) All deviations from pennit requirements. For purposes of this permit, a
"deviation" means any condition determined by observation, data from any
monitoring protocol or any other monitoring which is required by the pen-nit
that can be used to deten-nine compliance. Deviations include exceedances
documented by continuous emission monitoring or excursions from control
performance indicators documented through periodic or compliance assurance
monitoring.

(9 VAC 5-80-1 10 F)

Washington GaF finalfield Operations Center
Permit Number: NVR070151
Pac@ze IS

D. Annual Compliance Certification

Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than March 1 each calendar year a certification of compliance with all terms and conditions of this permit including, emission limitation standards or work practices. The compliance certification shall comply with such additional requirements that may be specified pursuant to 14(a)(3) and 504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

1. The time period included in the certification. The time period to be addressed is January 1 to December 31.
2. A description of the means for assessing or monitoring the compliance of the source with its emissions limitations, standards, and work practices.
3. The identification of each term or condition of the permit that is the basis of the certification.
4. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance.
5. Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the certification period.
6. The status of compliance with the terms and conditions of this permit for the certification period.
7. Such other facts as the permit may require to determine the compliance status of the source.

One copy of the annual compliance certification shall be sent to EPA at the following address:

Clean Air Act Title V Compliance Certification (3APOO)
U. S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029.

(9 VAC 5-80-110 K.5)

Washington Gas -ingfield Operations Center
-@-rmt Number: NVR070151
Paae 1 9

E. Permit Deviation Reporting

The permittee shall report by the next business day any deviations from permit requirements or any excess emissions, including, those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventive measures taken.
(9 VAC 5-80-1 1 0 F.2)

F. Failure/Malfunction Reporting

If, for any reason, the affected facilities or related air pollution control equipment fails or malfunctions and may cause excess emissions for more than one hour, the owner shall notify the Air Compliance Manager, Northern Virginia's Regional Office, within four days of the occurrence. In addition, the owner shall provide a written statement, within fourteen days, explaining the problem, corrective action taken, and the estimated duration of the breakdown/shutdown.
(9 VAC 5-80-1 80 C)

G. Severability

The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.
(9 VAC 5-80-1 1 0 G. 1)

H. Duty to Comply

The permittee shall comply with all terms and conditions of this permit. Any noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.
(9 VAC 5-80-1 10 G.2)

1. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
(9 VAC 5-80-1 1 0 G.3)

J. Permit Action for Cause

I - This pennit may be modified, revoked, reopened, and reissued, or terminate
d for
'fied in 9 VAC 5-80-1 1 0 L, 9 VAC 5-80-240 and 9 VAC 5-80-260. The
cause as speci
filing of a request by the permittee for a perml't modification, revocation an
d

Washington Gas -inszfield Operations Center
-L-Mit Nui-nber: NVR0701 5 I
Pa2e 20

reissuance, or tennination, or of a notification of planned chanues or anticip
ated
noncompliance does not stay anlv pennit condition.
(9 VAC 5-80-1 10 G.4)

2 Such changes that may require a permit modification and/or revisions include
, but are
not limited to, the following:

a. Erection, fabrication, installation, addition, or modification of an emissi
ons unit
(which is the source, or part of it, which emits or has the potential to emit
any
regulated air pollutant), or of a source, where there is, or there is potentia
l of, a
resulting emissions increase;

b. Reconstruction or replacement of any emissions unit or components thereof s
uch
that its capital cost exceeds 50% of the cost of a whole new unit;

c. Any change at a source which causes emission of a pollutant not previouslv
emitted, an increase in emissions, production, throughput, hours of operation,
or
fuel use greater than those allowed by the pen-nit, or by 9 VAC 5-90-1 1, unle
ss
such an increase is authon'zed by an emissions cap; or any chan-e at a source
which causes an increase in emissions resulting from a reduction in control
efficiency, unless such an increase is authon'zed by an emissions cap;

d. Any reduction of the height of a stack or of a point of emissions, or the a
ddition of
any obstruction which hinders the vertical motion of exhaust;

e. Any change at the source which affects its compliance with conditions in th
is
permit, including conditions relating to moniton'ng, recordkeepin-, and report
ing;

f Addition of an emissions unit which qualifies as insignificant by emissions
rate
(9 VAC 5-80-720 B) or by size or production rate (9 VAC 5-80-720 C);

g. Any change in insignificant activities, as defined by 9 VAC 5-80-90 D. La(1
) and
9 VAC 5-80-720 B and 9 VAC 5-80-720 C.

(9 VAC 5-80-1 1 0 G, 9 VAC 5-80-1 1 0 J, 9 VAC 5-80-240, and 9 VAC 5-80-260)

K. Property Rights

The permit does not convey any property rights of any sort, or any exclusive p
n'vilege.
(9 VAC 5-80-1 10 G.5)

L. Duty to Submit Information

I - The pen-nittee shall fumish to the Board, within a reasonable time, any in
formation
that the Board may request in wn'ting to detennine whether cause exl'sts for
modifying, revoking and reissuing, or terminating the permit or to deten-nine

Washington Gas -in-field Operations Center
_@mlt Nuniber: NVR0701 -5I
Pa-e 21

compliance with the permit. Upon request, the pemlittee shall also fumish to the Board copies of records required to be kept by the permit and. for infomiation clal'med to be confidential, the permittee shall fumish such records to the Board alongF with a claim of confidentiality.
(9 VAC 5-80-1 10 G.6)

2. Any document (including reports) required in a permit condition to be subnl ltted to the Board shall contain a certification by a responsible official that meets t he requirements of 9 VAC 5-80-80 G.
(9 VAC 5 -80-1 1 0 K. 1)

M. Duty to Pay Permit Fees

The owner of any source for which a pen-nit under 9 VAC 5-80-50 through 9 VAC 5-80-305 was issued shall pay pennit fees consistent with the requirements of 9 VAC 5-80-3 1 0 through 9 VAC 5-80-355.
(9 VAC 5-80-1 1 0 H)

N. Fugitive Dust Emission Standards

Dun'ng the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or pen-nit any maten'als or property to be handled, transported, stored, used, constructed, altered, repaired, or demo lished without taking reasonable precautions to prevent particulate matter from becom ing airborne. Such reasonable precautions may include, but are not limited to, the following:

1 . Use, where possible, of water or chemicals for control of dust in the demo lition of existing buildings or structures, construction operations, the gradin- of roads, or the clean'ng of land;

2. Application of asphalt, oil, water, or suitable chemicals on dirt roads, ma terials stockpiles, and other surfaces which may create airborne dust; the paving of roads and the maintaining of them in a clean condition;

3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed dun'ng sandblasting or other similar operations;

4. Open equipment for conveying or transporting matenal likely to create objec tionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and,

5. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dn'ed sediments resulting from soil erosion.

(9 VAC 5-40-90 and 9 VAC 5-50-90)

Washington Gas and Electric Field Operations Center
Permit Number: NVR0701 5 I
Page 22

O. Startup, Shutdown, and Malfunction

At all times, including periods of startup, shutdown, soot blowing, and normal operation, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
(9 VAC 5-50-20)

P. Alternative Operating Scenarios

Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log, at the facility a record of the scenario under which it is operating. The permit shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80, Article 1.
(9 VAC 5-80-1 1 0 J)

Inspection and Entry Requirements

The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

1. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.

2. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.

3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.

4. Sample or monitor at reasonable times substances or parameters for the purpose of assessing compliance with the permit or applicable requirements.

(9 VAC 5-80-1 1 0 K.2)

Washington Ga, -ming-field Operatioiis Celiter
ermit Number: NXR07n I I
Pai,,e

R. Reopening For Cause

The permit shall be reopened by the Board 'f add't'onal federal requ'renients beconle applicable to a maj'or source %vith a remaininc, pennit term of three vears or more. Such reopening shall be completed no later than I 8 months after promul-ation of th e applicable requirement. No such reopening is required if the effective date o f the requirement is later than the date on which the permit is due to expire, unles s the original pennit or any of its ten-ns and conditions has been extended pursuant to 9 VAC 5-80-80
F.

I . The permit shall be reopened if the Board or the administrator determines that the perinit contains a maten'al mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permi t.

2. The permit shall be reopened if the administrator or the Board deten-nines that the pennit must be revised or revoked to assure compliance with the applicable requirements.

3. The pen-nit shall not be reopened by the Board if additional applicable sta te requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-1 1 0 D.

(9 VAC 5-80-1 10 L)

S. Permit Availability

Within five days after receipt of the issued pennit, the perrnittee shall main tain the permit on the premises for which the pen-nit has been issued and shall mak-e the perr nit immediately available to DEQ upon request.
(9 VAC 5-80-150 E)

T. Transfer of Permits

I . No person shall transfer a pennit from one location to another, unless aut hon'zed under 9 VAC 5-80-130, or from one piece of equipment to another.
(9 VAC 5-80-160)

In the case of a transfer of ownership of a stationar-y source, the new owner shall comply with any current pennit issued to the previous owner. The new owner sh all 'fy the Board of the change in ownership within 30 days of the transfer and sh all noti comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-160)

Washington Gas Operat'ons Center

I

_,mit Number: NVR07/0151

Pa(,e 24

-e of a stationary source the owner shall complv xvith anv

In the case of a name chan.., I - -

ious source na &N, the

current permit issued under the prev' nie. The owner shall noti .

Board of the chan-e in source name within 30 days of the name chan-e and shall

comply with the requirements of 9 VAC 5-80-200.

(9 VAC 5-80-160)

U. Malfunction as an Affirmative Defense

I . A malfunction constitutes an affinnative defense to an action broueht for

D

noncompliance with technology-based emission limitations if the conditions of paragraph 2 are met.

The affirmative defense of malfunction shall be demonstrated by the pen-nittee

through properly signed, contemporaneous operatina logs, or other relevant evi
dence

41D

that show the following:

a. A malfunction occurred and the pen-nittee can identify the cause or causes of the malfunction.

b. The permitted facility was at the time being properly operated.

c. During the pen'od of malfunction, the permittee took all reasonable steps t
o minimize levels of emissions that exceeded the emissions standards or other requirements in the permit.

d. The pen-nittee notified the board of the malftinction within two working da
ys

following the time when the emission limitations were exceeded due to the malfunction. This notification shall include a descn'ption of the malfunction , any

steps taken to mitigate emissions, and cor-rective actions taken. The notific
ation

may be delivered either orally or in writing. The notification may be deliver
ed by

electronic mail, facsimile transmission, telephone, or any other method that allows the pennittee to comply with the deadline. This notification fulfills the

requirements of 9 VAC 5-80-1 10 F 2 b to report promptly deviations from permi
t

requirements. This notification does not release the pen-nittee from the malfunction reporting requirement under 9 VAC 5-20-180 C.

3. In any enforcement proceeding, the pen-nittee seeking to establish the occu
rence of a

malfunction shall have the burden of proof. The provisions of this section ar
e in

addition to any malfunction, emergency or upset provision contained in any requirement applicable to the source.

4. Theprovisionsofthissectionareinadditiontoanymalfunction,emergencyorupset provision contained in any applicable requirement.

(9 VAC 5-80-250)

Washington Gas -incyfield Operatioiis Ceilter
-nnit Number: NA.'RO701 -5 I
Pa@,,e

V. Permit Revocation or Termination for Cause

A permit may be revoked or ten-ninated pn'or to its expiration date if the own
er
knowingly mak-es material misstatements in the permit application or anv anien
dnients
thereto or if the pennittee violates, falls, neglects or refuses to comply wit
h the temis or
conditions of the pen-nit, any applicable requirements, or the applicable prov
isions of 9
VAC 5 Chapter 80 Article 1. The Board may suspend, under such conditions and f
or
such period of time as the Board may prescn'be, anv pennit for any of the grou
nds for
revocation or termination or for any other violations of these regulations.
(9 VAC 5-80-260)

W. Duty to Supplement or Correct Application

Any applicant who fails to submit any relevant facts or who has submitted inco
rrect
information in a permit application shall, upon becomin- aware of such failure
or
ID
incorrect submittal, promptly submit such supplenientar-v facts or corrections
. An
applicant shall also provide additional infon-nation as necessary to address a
ny
requirements that become applicable to the source after the date a complete ap
plication
was filed but pn'or to release of a draft permit.
(9 VAC 5-80-80 E)

X. Stratospheric Ozone Protection

If the pennittee handles or emits one or more Class I or ll substances subject
to a
standard promulgated under or established by Title VI (Stratospheric Ozone Pro
tection)
of the federal Clean Air Act, the permittee shall comply with all applicable s
ections of 40
CFR Part 82, Subparts A to F.
(40 CFR Part 82, Subparts A-F)

Y. Accidental Release Prevention

If the permittee has more, or will have more than a threshold quantity of a re
gulated
substance in a process, as detennined by 40 CFR 68.115, the permittee shall co
mply with
the requirements of 40 CFR Part 68.
(40 CFR Part 68)

Z. Changes to Permits for Emissions Trading

No permit revision shall be required under any federally approved economic inc
entives,
marketable pen-nits, emissions trading and other similar pro-rams or processes
for
changes that are provided for in this permit.
(9 VAC 5-80-1 10 1)

AA. Emissions Trading

Where the tradin- of em'ss'ons 'ncreases and decreases -vwithin the pen-n'tted
facili
I ltv
is to occur within the context of this perinit and to the extent that the re-u
lations
'de for trad'ng such 'ncreases and decreases without a case-by-case approval o
f
provi I I
each emissions trade:

I . All tenns and conditions required under 9 VAC -i-80-1 IO, except subsectio
n N,
shall be included to deten-nine compliance.

2. The pennit shield descn'bed in 9 VAC 5-80-140 shall extend to all ten-ns an
d
conditions that allow such increases and decreases in emissions.

3. The owner shall meet all applicable requirements including the requirements
of 9
VAC 5-80-50 through 9 VAC 5-80-300.

(9 VAC 5-80-1 1 0 1)

APPENDIX A
NOx RACT Parametric Monitoring Plan
Dated June 11, 1999

Washington UOI Industrial Road
Gas Springfield, Virginia 22151

7.1 - MI - -
it N; C
II June 1999

Mr. Terry J. Godar, P.E. L IN 1 4 199.0
Air Permit Manager
Virginia Department of Environmental Quality Nonhgrn VA. ftglcfl
13901 Crown Court Dem. of Env. :Iualitv
Woodbridge, Virginia 22193

Dear W. Godar-

Attached is our revised parametric monitoring plan for our Springfield Operati
ons' Center,
regisndon ntunber 70 1 5 1. If you have any questions or need any additional i
nfOrmatiOn, please call
me at (703) 750-5558 or Robert Clark at (703) 750-5972.

Sincerely,
4
/;? @t@j

Mary Jean B
Area Head,
Environment & Quality Assurance

Washington Gas will take daily temperature and pressure readings on each operating engine. Differential pressure readings will be used primarily to determine when the catalyst beds have exhausted or fouled, and secondarily to assess the engine's performance- if the differential pressure observed is below 1.5 inches of water column, Washington Gas will begin troubleshooting the system to determine the cause of the "short circuiting" and the engine will not be used for primary production until the problem is solved. If the differential pressure observed across the catalyst bed is above the differential pressure curve, the following remedial actions will be undertaken.

- 1) Measure the differential pressure with a calibrated gauge with connections that are clear of any obstructions, condensation, etc.
- 2) If the pressure is still in excess of the indicated value, use the portable analyzer to measure the NOx emissions to ensure that the pre/post catalyst composition is correct. If NOx emissions are greater than 550 ppm, perform engine diagnostics to include the catalyst system. If emissions are less than 550 ppm, call Johnson Matthey for consultation.
- 3) Adjust engine's air to fuel ratio and re-measure the differential pressure and temperature. Re-measure NOx emissions. If pressure is still excessive, continue engine diagnostics and make necessary repairs. (Only if emissions are greater than 550 ppm)
- 4) Washington Gas will not use the engine for primary production (except during engine diagnostics) until the differential pressure is below the desired value.

Differential temperature readings will provide the means for determining whether or not the reaction within the catalyst is acceptable. If the differential temperature observed across the catalyst bed is below the temperature curve, the following remedial actions will be undertaken.

- 1) Verify -check the differential temperature that all thermocouple wiring and connections are secure and re-temperature.
- 2) If temperature is still below the desired value, use the portable analyzer to measure the NOx emissions to ensure that the pre/post catalyst composition is correct. If NOx emissions are greater than 550 ppm, perform engine diagnostics to include the catalyst system.
- 3) Adjust the engine's air-fuel ratio and re-measure the differential temperature. If the temperature remains below the curve, continue to troubleshoot the engine and make necessary repairs.
- 4) Washington Gas will not use the engine for primary production (except during engine diagnostics) until the differential temperature is above the desired value.

In addition to the daily readings, Washington Gas will verify the differential temperature curves for each of the six engines every six months, using the portable analyzer. The curves will be verified at 400, 500, and 600 kW. If it is necessary to adjust the curve either up or down, written documentation will be forwarded to the DEQ within 60 days for review and/or correction.

ments.

I

I J@

08 0 7 m..

E 60 -

0 4

1@ 0 -

tti 20 -

2@

a

m

0- I 11 I I . - ---I.i .1I

250 300 350 400 450 500 550 600

Load kVV

. I A I

100
80
60
40
20
0

250 300 350 400 450 500 550 600
Load kVV

f i
r

I J@

m
1 00 - I

E 80 -

0 60 -

IN= 0
s

20
M@ I

I W. .
a 0 I i I I.- I ' " I I

250 350 450 550

Loa vv
i

00

80

60

40

20

0

250 300 350 400 450 500 550 600
Load kV

I

a

n 100 I

a 80

E

O' 60

IN=

. n 40

t: 20 -

im 0 I -- I' I I I - I I - @-

I

I

i

250 350 450 550

Load kV

I

t

1 2@

0 40

a

E 30 -

(D.

1@ 2.0

0

ti= 10 -

a Rolml- - Opm

0 - I I @ I I I I

i

250 300 350 400 450 500 550 600

r

Load kV
j

I

t

Diff. Pressure vs. Loadming

6 -
(D
Lm 5 -
c
3
.. (4 E -
4
t a
4 0
(D b. 3 -
a

IL 0 2 -
I
5
0 1
r.
- 1-1
8@ 0

Load kVV

I