VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
PIEDMONT REGIONAL OFFICE
4949-A Cox Road, Glen Allen, Virginia 23060
(804) 527-5020 FAX (804) 527-5106
www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director
(804) 698-4000

James J. Golden
Regional Director

DRAFT

Mr. Irfan K. Ali
Managing Partner
Balico LLC/Chickahominy Power
1380 Coppermine Road, Suite 115
Herndon, VA 20171

Location: Charles City County
Registration No.: 52610

Dear Mr. Ali:

Attached is a permit to construct and operate an electric power generation facility in accordance with the provisions of the Virginia State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution.

In the course of evaluating the application and arriving at a final decision to approve the project, the Department of Environmental Quality (DEQ) deemed the application complete on January 10, 2019 and solicited written public comments by placing a newspaper advertisement in the Charles City/New Kent Chronicle on January 31, 2019. A public hearing was held on March 5, 2019. The required comment period, provided by 9 VAC 5-80-1775 F expired on March 20, 2019.

This permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and/or civil charges. Please read all permit conditions carefully.

This permit approval to construct and operate shall not relieve Chickahominy Power of the responsibility to comply with all other local, state, and federal permit regulations. The proposed combustion turbine generators are affected facilities under 40 CFR 60, New Source Performance Standard (NSPS), Subpart TTTT. Also, your proposed diesel emergency generator (EG-1) and diesel emergency fire water pump (FWP-1) may be subject to 40 CFR 60, New Source Performance Standard (NSPS), Subpart IIII and 40 CFR 63, Maximum Achievable Control Technology (MACT), Subpart ZZZZ. In summary, the units may be required to comply with certain federal emission standards and operating limitations. The DEQ advises you to review the referenced NSPS and MACT to ensure compliance with applicable emission and

operational limitations. As the owner/operator you are also responsible for monitoring, notification, reporting and recordkeeping requirements of the NSPS and MACT. Notifications shall be sent to both EPA Region III and Virginia DEQ.

To review any federal rules referenced in the above paragraph or in the attached permit, the US Government Publishing Office maintains the text of these rules at **www.ecfr.gov**, Title 40, Part 60 and 63.

The Board's Regulations as contained in Title 9 of the Virginia Administrative Code 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 case decision notice was mailed or delivered to you. Please consult the relevant regulations for additional requirements for such requests.

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

David K. Paylor, Director
Department of Environmental Quality
P. O. Box 1105
Richmond, VA 23218

If this permit was delivered to you by mail, three days are added to the thirty-day period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia for information on the required content of the Notice of Appeal and for additional requirements governing appeals from decisions of administrative agencies.

If you have any questions concerning this permit, please contact the regional office at (804) 527-5020.

Sincerely,

Kyle Ivar Winter, P.E.
Deputy Regional Director

KIW/AMS/52610_01_2019 PSD Final DRAFT Revision May 21 2019.docx

Attachments: Permit
Source Testing Report Format

cc: Chief, Office of Air Enforcement and Compliance Assistance, U.S. EPA, Region III (electronic file submission)
Inspector, Air Compliance

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
PIEDMONT REGIONAL OFFICE
4949-A Cox Road, Glen Allen, Virginia 23060
(804) 527-5020 FAX (804) 527-5106
www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director
(804) 698-4000

James J. Golden
Regional Director

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT
STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE
This permit includes designated equipment subject to
New Source Performance Standards (NSPS).

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

Balico LLC/Chickahominy Power
1380 Coppermine Road, Suite 115
Herndon, Virginia 20171
Registration No.: 52610

is authorized to construct and operate

an electric power generation facility

located at

the east side of State Road 106 (Roxbury Rd), along
Chambers/Landfill Road, Charles City, VA

in accordance with the Conditions of this permit.

Approved on DRAFT.

_____
Deputy Regional Director
Department of Environmental Quality

Permit consists of 28 pages.
Permit Conditions 1 to 80.

INTRODUCTION

This permit approval is based on the permit application dated February 22, 2017; including amendment information dated November 2, 2018. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action. In addition, this facility may be subject to additional applicable requirements not listed in this permit.

Words or terms used in this permit shall have meanings as provided in 9 VAC 5-10-20 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses () after each condition.

Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact.

The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.2-3700 through 2.2-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

Equipment List – Equipment at this facility consists of:

Equipment to be constructed:

Ref. No.	Equipment Description	Rated Capacity	Federal Requirements
CT-1	Mitsubishi Hitachi Power Systems (MHPS) M501JAC combustion turbine generator	4,070 MMBtu/hr CT (HHV)	NSPS, Subpart KKKK
CT-2	Mitsubishi Hitachi Power Systems (MHPS) M501JAC combustion turbine generator	4,070 MMBtu/hr CT (HHV)	NSPS, Subpart KKKK
CT-3	Mitsubishi Hitachi Power Systems (MHPS) M501JAC combustion turbine generator	4,070 MMBtu/hr CT (HHV)	NSPS, Subpart KKKK
HRSG1, 2, & 3 each with a steam turbine generator	Mitsubishi heat recovery steam generators (HRSGs) with steam turbine generators	178 MW each at ISO	None

Ancillary equipment:

Ref. No.	Equipment Description	Rated Capacity	Federal Requirements
B-1	Auxiliary Boiler (natural gas-fired)	84 MMBtu/hr (HHV)	NSPS Subpart Dc
B-2	Auxiliary Boiler (natural gas-fired)	84 MMBtu/hr (HHV)	NSPS Subpart Dc
FGH-1	Fuel Gas Heater (natural gas-fired)	12 MMBtu/hr each (HHV)	NSPS Subpart Dc
FGH-2	Fuel Gas Heater (natural gas-fired)	12 MMBtu/hr each (HHV)	NSPS Subpart Dc

Ref. No.	Equipment Description	Rated Capacity	Federal Requirements
FGH-3	Fuel Gas Heater (natural gas-fired)	12 MMBtu/hr each (HHV)	NSPS Subpart Dc
EG-1	Emergency Generator (S15 ULSD)	3000 kW	NSPS IIII, MACT ZZZZ
FWP-1	Fire Water Pump (S15 ULSD)	376 bhp	NSPS IIII, MACT ZZZZ
CB	Electrical Circuit Breakers	22,800 lbs SF_6 total	None
NGL-1	Fugitive equipment leaks from natural gas piping components	---	None
T-1	ULSD storage tank	572 gallons	None
T-2	ULSD storage tank	2,500 gallons	None

Specifications included in the above table are for informational purposes only and do not form enforceable terms or conditions of the permit.

PROCESS REQUIREMENTS

Combustion Turbine Generators (CT-1, CT-2, CT-3)

1. **Emission Controls: Combustion Turbine Generators -** Nitrogen oxide (NO_x) emissions from each of the combustion turbine generators (CT-1, CT-2, CT-3) shall be controlled by dry, low NO_x burners and selective catalytic reduction (SCR) with a NO_x performance of 2.0 ppmvd at 15% O_2. The low NO_x burners shall be installed and operated in accordance with manufacturer's specifications. The SCR shall be provided with adequate access for inspection and shall be in operation when the combustion turbine generators are operating (at all times except during startup and shutdown, as defined in Condition 9).
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

2. **Monitoring Devices: Combustion Turbine Generators - SCR -** Each SCR system shall be equipped with devices to continuously measure and record ammonia feed rate and catalyst bed inlet gas temperature. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures that shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the SCR system is operating. To ensure good performance of the SCR, the devices used to continuously measure the ammonia feed rate and catalyst bed inlet temperature on the SCR shall be observed by the permittee with a frequency sufficient to ensure good performance of the SCR system, but not less than once per day of operation.
(9 VAC 5-50-20 C, 9 VAC 5-50-50 H and 9 VAC 5-80-1705 B)

3. **Emission Controls: Combustion Turbine Generators** – Carbon monoxide (CO) emissions from each of the combustion turbine generators (CT-1, CT-2, CT-3) shall be controlled by an oxidation catalyst and good combustion practices (e.g. controlled fuel/air mixing, adequate temperature, and gas residence time). The oxidation catalyst shall be provided with adequate access for inspection and shall be in operation when the combustion turbine generators are operating (at all times except during startup and shutdown, as defined in Condition 9).
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

4. **Emission Controls: Combustion Turbine Generators** – Volatile organic compound (VOC) emissions from each of the combustion turbine generators (CT-1, CT-2, CT-3) shall be

controlled by an oxidation catalyst and good combustion practices (e.g. controlled fuel/air mixing, adequate temperature, and gas residence time). The oxidation catalyst shall be provided with adequate access for inspection and shall be in operation when the combustion turbine generators are operating (at all times except during startup and shutdown, as defined in Condition 9).
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

5. **Monitoring Devices: Oxidation Catalyst** - Each oxidation catalyst shall be equipped with a device to continuously measure and record temperature at the catalyst bed inlet and outlet. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures that shall include, at a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the oxidation catalyst is operating. To ensure good performance of the oxidation catalyst system, the device used to continuously measure and record the catalyst bed inlet and outlet gas temperature on the oxidation catalyst shall be observed by the permittee with a frequency sufficient to ensure good performance of the oxidation catalyst system, but not less than once per day of operation.
(9 VAC 5-50-20 C, 9 VAC 5-50-50 H and 9 VAC 5-80-1705 B)

6. **Emission Controls: Combustion Turbine Generators** – Sulfur dioxide (SO_2) and sulfuric acid mist (H_2SO_4) emissions from each of the combustion turbine generators (CT-1, CT-2, CT-3) shall be controlled by the use of pipeline-quality natural gas with a maximum sulfur content of 0.4 grains per 100 standard cubic feet (scf), on a 12-month rolling average. Compliance will be based on fuel monitoring results as required by Condition 22.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

7. **Emission Controls: Combustion Turbine Generators** – Particulate Matter (PM, PM_{10}, $PM_{2.5}$) emissions from each of the combustion turbine generators (CT-1, CT-2, CT-3) shall be controlled by good combustion practices (e.g. controlled fuel/air mixing, adequate temperature, and gas residence time) and the use of pipeline-quality natural gas with a maximum sulfur content of 0.4 grains per 100 scf, on a 12-month rolling average.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

8. **Emission Controls: Combustion Turbine Generators** – Greenhouse gas emissions (including carbon dioxide, methane, and nitrous oxide), as CO_2e from the combustion turbine generators (CT-1, CT-2, CT-3) shall be controlled by the use of low carbon fuel (natural gas) and high efficiency design and operation of the combustion turbine generators (CT-1, CT-2, CT-3 and steam turbine generator). The heat rate of the combustion turbine generators (CT-1, CT-2, CT-3 and steam turbine generator) at full load, corrected to ISO conditions, and providing for incremental degradation of the units, shall not exceed the following:

	Btu/kWh net (HHV) output
Initial Test	6,452
Year 6	6,581
Year 12	6,677
Year 18	6,775
Year 24	6,871

Year 30	6,968
Year 36 and later	7,064

Compliance shall be demonstrated as contained in Conditions 62 and 65. The Year is defined in Condition 35.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

9. **Startup/Shutdown: Combustion Turbine Generators** –The permittee shall comply with the requirements of this permit at all times except where noted by a specific condition. For the purpose of this permit, this condition defines startup and shutdown operating scenarios for the combustion turbine generators (CT-1, CT-2, CT-3).

   a. Startup periods are defined as follows:

      i. For the purpose of this permit, startup is defined as the time from combustion turbine ignition to the HRSG stack NO_x and CO steady state emission compliance (see Condition 34.a) or the duration of the event periods indicated in items ii through iv below, whichever is shorter:

      ii. Cold Startup Event: cold startup is defined as restarts made 48 hours or more after shutdown. Cold startup events shall not exceed 42 minutes per occurrence.

      iii. Warm Startup Event: warm startup is defined as restarts made more than 8 but less than 48 hours after shutdown. Warm startup events shall not exceed 42 minutes per occurrence.

      iv. Hot Startup Event: hot startup is defined as restarts made less than 8 hours after shutdown. Hot startup events shall not exceed 42 minutes per occurrence.

   b. Shutdown Event: For the purpose of this permit, a shutdown event is defined as the moment at which either the HRSG stack NOx or CO emissions exceed steady state compliance (see Condition 34.a) following a normal stop signal, until the cessation of fuel firing in the combustion turbine generators (CT-1, CT-2, CT-3). Shutdown shall not exceed 15 minutes per occurrence.

   c. If the SCR was not engaged during startup of a particular combustion turbine (including ammonia injection), the failure of that startup shall not be considered a shutdown as defined in 9.b.

   d. The permittee shall operate the Continuous Emission Monitoring System (CEMS) during periods of startup and shutdown.

   e. The permittee shall record the time, date and duration of each startup and shutdown event. The records must include calculations of NO_x and CO emissions during each event based on the CEMS data. These records must be kept for five years following the date of such event.

   f. If the applicable NOx and CO emission limits in Condition 34.d are exceeded during these events, the recorded emissions shall be included in the associated quarterly excess emission report.

g. During startup and shutdown, the combustion turbine generator SCR system, including ammonia injection, and oxidation catalyst shall be operated in a manner to minimize emissions, as technologically feasible, and following the SCR manufacturer's written protocol or best engineering practices for minimizing emissions. Where best practices are used, the permittee shall maintain written documentation explaining the sufficiency of such practices. If such practices are used in lieu of the manufacturer's protocol, the documentation shall justify why the practices are at least equivalent to manufacturer's protocols with respect to minimizing emissions.

(9 VAC 5-50-280 and 9 VAC 5-80-1705)

10. **Alternate Operating Scenario: Combustion Turbine Generators – Tuning Events –** Periodic burner tuning is done by the permittee as part of the regularly scheduled procedures conducted on the CTs to maintain the high-efficiency operation of those units. The following conditions apply to these alternative operating scenarios:

    a. No tuning event shall last more than 18 consecutive hours.

    b. The permittee shall record the time, date and duration of each tuning event. The records must include calculations of NO_x and CO emissions during each event based on the CEMS data. These records must be kept for five years following the date of such event.

    c. If the applicable NOx and CO emission limits in Condition 34.b are exceeded during these events, the recorded emissions shall be included in the associated quarterly excess emission report.

    d. The permittee shall notify the Piedmont Regional Office at least 24 hours prior to each declared turning event unless approval for a shorter notice is provided by DEQ. The notification shall include, but not be limited to, the following information:

        i. Identification of the specific turbine to be tuned;

        ii. Reason for the declared tuning event; and

        iii. Measures that will be taken to minimize the duration of the declared turning event.

(9 VAC 5-20-180J and 9 VAC 5-50-20E)

<u>Auxiliary boilers (B-1, B-2) and fuel gas heaters (FGH-1, FGH-2, FGH-3)</u>

11. **Emission Controls: Fuel Gas Heaters and Auxiliary Boilers** – NO_x emissions from the auxiliary boilers (B-1, B-2) and fuel gas heaters (FGH-1, FGH-2, FGH-3) shall be controlled by low NO_x burners with a NO_x performance of 0.011 lbs/MMBtu. The low NO_x burners shall be installed and operated in accordance with manufacturer's specifications.
(9 VAC 5-50-280 and 9 VAC 5-80-1705 B)

12. **Emission Controls: Fuel Gas Heaters and Auxiliary Boilers** – CO and VOC emissions from the auxiliary boilers (B-1, B-2) and fuel gas heaters (FGH-1, FGH-2, FGH-3) shall be controlled by good combustion practices (controlled fuel/air, adequate temperature, and adequate gas residence time), operator training, and proper emissions unit design, construction and maintenance to achieve a maximum CO emission rate of 0.037 lb/MMBtu and a maximum VOC emission rate of 0.005 lb/MMBtu. Boiler and heater 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 a minimum. The permittee shall maintain records of the required training including a statement of time, place and nature of training provided. The permittee shall have available good written operating procedures and a maintenance schedule for the boilers and heater. These procedures shall be based on the manufacturer's recommendations and/or best engineering practices, at a minimum. All records required by this condition shall be kept on site and made available for inspection by the DEQ.
(9 VAC 5-50-280 and 9 VAC 5-80-1705 B)

13. **Emission Controls: Fuel Gas Heaters and Auxiliary Boilers** – SO_2 and H_2SO_4 emissions from the auxiliary boilers (B-1, B-2) and fuel gas heaters (FGH-1, FGH-2, FGH-3) shall be controlled by the use of pipeline-quality natural gas with a maximum sulfur content of 0.4 grains per 100 standard cubic feet (scf), on a 12-month rolling average. Compliance will be based on fuel monitoring results as required by Condition 22 for the combustion turbine generators.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

14. **Emission Controls: Fuel Gas Heaters and Auxiliary Boilers** – PM, PM_{10}, and $PM_{2.5}$ emissions from the auxiliary boilers (B-1, B-2) and fuel gas heaters (FGH-1, FGH-2, FGH-3) shall be controlled by good combustion practices and the use of pipeline-quality natural gas with a maximum sulfur content of 0.4 grains per 100 scf, on a 12-month rolling average. Compliance will be based on fuel monitoring results as required by Condition 22.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

15. **Emission Controls: Fuel Gas Heaters and Auxiliary Boilers** – CO_2e emissions from the auxiliary boilers (B-1, B-2) and fuel gas heaters (FGH-1, FGH-2, FGH-3) shall be controlled by the use of natural gas fuel and high efficiency design and operation.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

<u>Emergency Units (EG-1 and FWP-1)</u>

16. **Emission Controls: EG-1, FWP-1** – PM, PM_{10}, $PM_{2.5}$, NO_x, CO, SO_2, VOC, H_2SO_4, and CO_2e emissions from the diesel emergency units (EG-1 and FWP-1) shall be controlled by good combustion practices, high efficiency design, and the use of ultra-low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

17. **Emission Controls: EG-1, FWP-1** – CO_2e emissions from the diesel emergency units (EG-1 and FWP-1) shall be controlled by the use of S15 ULSD and high efficiency design and operation.
(9 VAC 5-80-1705B and 9 VAC 5-50-280)

18. **Monitoring Devices: EG-1 –** The permittee must install a non-resettable hour meter on the emergency generator (EG-1) and the emergency fire water pump (FWP-1) prior to the startup of each unit. The hour meters shall be provided with adequate access for inspection.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

Miscellaneous Processes

19. **Emission Controls: Equipment Leaks** – Fugitive emissions from natural gas piping components (valves and flanges) located on the power plant property (NGL-1) shall be minimized by using best management practices to prevent, detect and repair leaks of natural gas from the piping components. At commencement of commercial operation, the permittee shall implement a daily auditory/visual/olfactory (AVO) inspection program for detecting leaking in natural gas piping components. Records of the daily AVO inspection results, repair attempts, and repair results shall be maintained on site. The AVO plan shall be submitted for review no later than 60 days prior to commencement of commercial operation of the facility.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

20. **Emission Controls: Electrical Breakers –** The total combined capacity of the electrical circuit breakers shall not exceed 22,800 lbs of SF_6. Greenhouse gas emissions (including SF_6) from the circuit breakers (CB) shall be controlled by an enclosed-pressure circuit breaker, with a maximum annual leakage rate of 0.5 percent, and a low pressure detection system (with alarm). The low pressure detection system shall be in operation when the circuit breakers are in use. The permittee shall develop a maintenance plan for the circuit breakers that includes procedures for minimizing emissions and corrective action to be taken in the event of a low pressure alarm. The permittee shall keep records of the total quantity of SF_6 gas added to the circuit breakers in a calendar year.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

OPERATING LIMITATIONS

21. **Fuel Throughput: Combustion Turbine Generators** – Each of the three combustion turbine generators (CT-1, CT-2, CT-3) shall consume no more than a total of 3.5×10^{10} scf of natural gas per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

22. **Fuel Monitoring: Combustion Turbine Generators**– The permittee shall determine the total sulfur content of the natural gas being fired at the electric power generation facility to verify that the sulfur content of the natural gas is less than or equal to 0.4 grains of total sulfur per 100 scf on a 12-month rolling average in order to demonstrate that potential sulfur dioxide and sulfuric acid mist emissions shall not exceed the limits specified in Condition 34.a for the combustions turbine generators (CT-1, CT-2, CT-3). The permittee shall demonstrate compliance with the sulfur content limit in Condition 24 using one of the following:

    a. Determine and record the total sulfur content of the natural gas each month. A monthly sample is not required for months when the turbines operated for 48 hours or less, or

    b. Develop custom schedules for determination of the sulfur content of the natural gas based on the design and operation of the affected facility and the characteristics of the fuel

supply. Except as provided in 40 CFR 60.4370(c)(1) and (c)(2), custom schedules shall be substantiated with data and shall receive prior EPA approval.

(9 VAC 5-50-410, 9 VAC 5-50-280, 40 CFR 60.4365(a), 40 CFR 60.4370(b), and 40 CFR 60.4370(c))

23. **Alternate Operating Scenario Limitation: Combustion Turbine Generators –**The total duration of turbine tuning events shall not exceed 96 hours per turbine per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

24. **Fuel: Combustion Turbine Generators, Fuel Gas Heaters, and Auxiliary boilers** - The approved fuel for the combustion turbine generators (CT-1, CT-2, CT-3), fuel gas heaters (FGH-1, FGH-2, FGH-3), and the auxiliary boilers (B-1, B-2) is pipeline quality natural gas with a maximum sulfur content of 0.4 grains per 100 scf, on a 12-month rolling average basis. A change in the fuel may require a permit to modify and operate.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

25. **Fuel Throughput: Auxiliary Boilers** - Each of the two auxiliary boilers (B-1, B-2) shall consume no more than 7.21×10^8 scf of natural gas per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

26. **Fuel Throughput: Fuel Gas Heaters** – Each of the fuel gas heaters (FGH-1, FGH-2, FGH-3) shall consume no more than 1.03×10^8 scf of natural gas per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-1705B and 9 VAC 5-50-280)

27. **Fuel: EG-1 and FWP-1** - The approved fuel for the emergency diesel fire water pump (FWP-1) and emergency diesel generator (EG-1) is ultra-low sulfur diesel (S15 ULSD). A change in the fuel may require a permit to modify and operate.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

28. **Fuel: EG-1 and FWP-1**- The fuel for the fire pump (FWP-1) and emergency generator (EG-1) shall meet the specifications below:

    ULTRA-LOW SULFUR DIESEL FUEL (S15 ULSD) which meets the ASTM D975-10b specification for S15 fuel oil: Maximum sulfur content per shipment: 0.0015%

    (9 VAC 5-80-1705 B and 9 VAC 5-50-280)

29. **Operating Hours: EG-1 and FWP-1 -** The emergency generator (EG-1) and emergency fire water pump (FWP-1) shall not operate more than 500 hours each per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months. (9 VAC 5-80-1705 B and 9 VAC 5-50-280)

30. **Emergency Operation: EG-1 and FWP-1 –** The emergency diesel engine (EG-1) and firewater pump (FWP-1) shall only be operated in the following modes:

    a. In situations that arises from sudden and reasonably unforeseeable events where the primary energy or power source is disrupted or disconnected due to conditions beyond the control of an owner or operator of a facility including:

        i. A failure of the electrical grid;

        ii. On-site disaster or equipment failure; or

        iii. Public service emergencies such as flood, fire, natural disaster, or severe weather conditions.

    b. For participation in an ISO-declared emergency, where an ISO emergency is:

        i. An abnormal system condition requiring manual or automatic action to maintain system frequency, to prevent loss of firm load, equipment damage, or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property;

        ii. Capacity deficiency or capacity excess conditions;

        iii. A fuel shortage requiring departure from normal operating procedures in order to minimize the use of such scarce fuel;

        iv. Abnormal natural events or man-made threats that would require conservative operations to posture the system in a more reliable state; or

        v. An abnormal event external to the ISO service territory that may require ISO action.

    c. For periodic maintenance, testing, and operational training.

    Total emissions for any 12 month period, calculated as the sum of all emissions from operations under the scenarios above, shall not exceed the annual limits (tons/yr) stated in Condition 39 for the firewater pump (FWP-1) and Condition 40 for the emergency generator (EG-1).
    (9 VAC 5-80-1705 B and 9 VAC 5-50-280)

31. **Fuel Certification: EG-1 and FWP-1 -** The permittee shall obtain a certification from the fuel supplier with each shipment of S15 ULSD oil. Each fuel supplier certification shall include the following:

    a. The name of the fuel supplier;

    b. The date on which the S15 ULSD oil was received;

c. The quantity of S15 ULSD oil delivered in the shipment;

d. A statement from the supplier that the fuel oil is S15 ULSD oil;

Fuel sampling and analysis, independent of that used for certification, as may be periodically required or conducted by DEQ may be used to determine compliance with the fuel specifications stipulated in Condition 28. Exceedance of these specifications may be considered credible evidence of the exceedance of emission limits.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

32. **Maintenance and Operation: EG-1 and FWP-1** – The permittee must maintain and operate the emergency fire pump (FWP-1) and emergency generator (EG-1) according to the manufacturer's recommendations and/or procedures developed by the permittee using best engineering practices, over the entire life of the engine.
(9 VAC 5-80-1705 B and 9 VAC 5-50-280)

33. **Requirements by Reference: NSPS -** Except where this permit is more restrictive than the applicable requirement, the NSPS equipment as described in the equipment table in the Introduction on page 2 of this permit shall be operated in compliance with the requirements of 40 CFR 60, Subparts Dc, IIII, and KKKK.
(9 VAC 5-50-400 and 9 VAC 5-50-410)

EMISSION LIMITS

34. **Short-Term Emission Limits: Combustion Turbine Generators -**Emissions from the operation of each combustion turbine generator (CT-1, CT-2, CT-3), shall not exceed the limits specified below:

a. Normal operation – The limits in the table below apply as described in the "Applicability" column. Periods considered startup and shutdown are defined in Condition 9 of this permit, and alternate operating scenarios are defined in Condition 10.

Pollutant	Short term emission limits	Applicability
$PM_{\text{filterable only}}$	0.0052 lb/MMBtu	This limit applies at all times except during tuning. See item b below.
PM_{10}	0.0052 lb/MMBtu 12.3 lb/hr as an average of three test runs.	These limits apply at all times except during tuning. See item **Error! Reference source not found.** below.
$PM_{2.5}$	0.0052 lb/MMBtu 12.3 lb/hr as an average of three test runs	These limits apply at all times except during tuning. See item b below.
SO_2	0.00114 lb/MMBtu	This limit applies at all times.
NO_x	2.0 ppmvd @ 15% O_2 as a one-hour average	This limit applies at all times except during startup, shutdown, and tuning. See items **Error! Reference source not found.** and d below.

Pollutant	Short term emission limits	Applicability
CO	1.0 ppmvd @ 15% O_2	This limit applies at all times except during startup, shutdown, and tuning. See items b and d below.
VOC	0.7 ppmvd @ 15% O_2	This limit applies at all times except during startup, shutdown, and tuning. See items b and d below.
H_2SO_4	0.0012 lb/MMBtu	This limit applies at all times.

Where:

ppmvd = parts per million by volume on a dry gas basis, corrected to 15 percent O_2.

Short-term emission limits represent averages for a three-hour sampling period for CO, VOC, SO_2 and H_2SO_4. Nitrogen oxides shall be calculated as a one-hour average. PM, PM_{10} and $PM_{2.5}$ limits represent the average of three test runs.

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these limits may be determined as stated in Conditions 1, 3, 4, 6, 7, 21, 22, 45, 56, 57, and 60.

b. During each CT tuning event as described in Condition 10, emissions shall not exceed the following limits:

Pollutant	Limitations for Tuning Events
NO_x	703 lb/turbine/calendar day
CO	214 lb/turbine/calendar day
VOC	Duration of tuning events shall not exceed limits in Condition 10.
PM, PM_{10}, $PM_{2.5}$	Duration of tuning events shall not exceed limits in Condition 10.

The emissions limits for tuning events do not include emissions from startup and/or shutdown that may occur on the same calendar day.

c. NO_x emission concentrations shall not exceed the NO_x standards of the NSPS Subpart KKKK of 15 ppm at loads > 75% or 96 ppm at loads $\leq$ 75% corrected to 15% O_2 (on a rolling 30-day average basis).

d. During each startup or shutdown event, emissions shall not exceed the following:

Pollutant	Startup/Shutdown Limitations
NO_x	cold start event – 60 lb/turbine/event warm start event – 54 lb/turbine/event hot start event – 42 lb/turbine/event shutdown event – 20 lb/turbine/event
CO	cold start event – 444 lb/turbine/event warm start event – 396 lb/turbine/event hot start event – 252 lb/turbine/event

Pollutant	Startup/Shutdown Limitations	
	shutdown event –	156 lb/turbine/event
VOC	cold start event –	216 lb/turbine/event
	warm start event –	216 lb/turbine/event
	hot start event –	168 lb/turbine/event
	shutdown event –	216 lb/turbine/event

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with the NOx and CO limits may be determined as stated in Conditions 9 and 45. Compliance with the VOC limits may be determined by demonstrating correlation of VOC emissions to CO emissions, using CO and VOC stack testing and CO CEM data.
(9 VAC 5-50-280, 9 VAC 5-80-1705, 9 VAC 5-80-1715)

35. **Emission Limits: Combustion Turbine Generators** – CO_2e emissions from each of the combustion turbine generators (CT-1, CT-2, CT-3) and the steam turbines, providing for incremental degradation of the units, shall not exceed the following:

Degradation Period	Applicable limit in lb CO_{2e}/MWh net output
Years 1-6	812
Years 7-12	824
Years 13-18	836
Years 19-24	847
Years 25-30	859
Years 31 and later	871

For the purposes of determining which limit is applicable, Year 1 begins upon commencement of commercial operation and ends on December 31 of the first full calendar year after that date. Each limit increments on January 1 of the respective year. For example, if the facility commences commercial operation on April 15, 2021, Year 1 begins on April 15, 2021 and ends on December 31, 2022. Year 7 begins, and the increased limit becomes effective, on January 1, 2028.

Compliance with the applicable limit shall be calculated monthly on a 12- month rolling basis. Compliance may be determined each month by summing the calculated CO_2e emissions from the combustion turbine generators (CT-1, CT-2, CT-3) during the previous 12 months (Condition 47) and dividing that value by the sum of the electrical energy output over that same period (Condition 48).
(9 VAC 5-50-280, 9 VAC 5-80-1705, and 9 VAC 5-80-1715)

36. **Annual Process Emission Limits: Combustion Turbine Generators** – Emissions from the operation of <u>each</u> of the three combustion turbine generators (CT-1, CT-2, CT-3) shall not exceed the limits specified below:

PM	53.9	tons/yr	(on a 12-month, rolling total)
PM_{10}	53.9	tons/yr	(on a 12-month, rolling total)
$PM_{2.5}$	53.9	tons/yr	(on a 12-month, rolling total)

SO_2	20.4	tons/yr	(on a 12-month, rolling total)
NO_x	128.4	tons/yr	(on a 12-month, rolling total)
CO	94.3	tons/yr	(on a 12-month, rolling total)
VOC	68.1	tons/yr	(on a 12-month, rolling total)
H_2SO_4	21.4	tons/yr	(on a 12-month, rolling total)
CO_2e	2,123,519	tons/yr	(on a 12-month, rolling total)

These emissions are derived from the estimated overall emission contribution from operating limits, and include periods of startup and shutdown, and tuning. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 1, 3, 4, 6, 7, 21, 22, 23, 45, and 47.
(9 VAC 5-50-280, 9 VAC 5-80-1705, and 9 VAC 5-80-1715)

37. **Process Emission Limits: Auxiliary Boilers** – Emissions from the operation of <u>each</u> of the auxiliary boilers (B-1, B-2) shall not exceed the limits specified below:

PM	0.6	lbs/hr	2.6	tons/yr (on a 12-month, rolling total)
PM_{10}	0.6	lbs/hr	2.6	tons/yr (on a 12-month, rolling total)
$PM_{2.5}$	0.6	lbs/hr	2.6	tons/yr (on a 12-month, rolling total)
SO_2	0.00114	lb/MMBtu	0.5	tons/yr (on a 12-month, rolling total)
NO_x	1.0	lbs/hr	4.1	tons/yr (on a 12-month, rolling total)
CO	3.2	lbs/hr	13.7	tons/yr (on a 12-month, rolling total)
VOC	0.005	lbs/MMBtu	1.9	tons/yr (on a 12-month, rolling total)
CO_2e			43,827	tons/yr (on a 12-month, rolling total)

These emissions are derived from the estimated overall emission contribution from operating limits, including periods of startup and shutdown. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 11, 12, 13, 14, 15, 24, 25, 43, 59, and 61.
(9 VAC 5-50-280, 9 VAC 5-80-1705, and 9 VAC 5-80-1715)

38. **Process Emission Limits: Electrical Breakers** - Emissions from the operation of the electrical circuit breakers (CB-1) shall not exceed 1,140 tons of CO_2e/year on a 12 month, rolling average. These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition 20.
(9 VAC 5-50-280, 9 VAC 5-80-1705, and 9 VAC 5-80-1715)

39. **Process Emission Limits: FWP-1** - Emissions from the operation of the fire water pump (FWP-1) shall not exceed the limits specified below:

PM	0.15	g/hp-hr		
PM_{10}	0.15	g/hp-hr		
$PM_{2.5}$	0.15	g/hp-hr		
NO_x	3.0	g/hp-hr	0.7	tons/yr (on a 12-month rolling total)
CO	2.6	g/hp-hr	0.6	tons/yr (on a 12-month rolling total)
VOC	0.11	g/hp-hr		
SO_2	0.00154	lb/MMBtu		
H_2SO_4	0.000118	lb/MMBtu		
CO_2e			106	tons/yr (on a 12-month rolling total)

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 27, 28, 29, 30, 32 and 44.
(9 VAC 5-50-280, 9 VAC 5-80-1705, and 9 VAC 5-80-1715)

40. **Process Emission Limits: EG-1** - Emissions from the operation of the diesel emergency generator (EG-1) shall not exceed the limits specified below:

PM	0.15	g/hp-hr		
PM_{10}	0.15	g/hp-hr		
$PM_{2.5}$	0.15	g/hp-hr		
NO_x	4.8	g/hp-hr	11.7	tons/yr (on a 12-month rolling total)
CO	2.6	g/hp-hr	6.4	tons/yr (on a 12-month rolling total)
VOC	1.0	g/hp-hr		
SO_2	0.00154	lb/MMBtu		
H_2SO_4	0.000118	lb/MMBtu		
CO_2e			1,203	tons/yr (on a 12-month rolling total)

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 27, 28, 29, 30, 32, and 44.
(9 VAC 5-50-280, 9 VAC 5-80-1705, and 9 VAC 5-80-1715)

41. **Process Emission Limits: Fuel Gas Heaters** – Emissions from the operation of each of the fuel gas heaters (FGH-1, FGH-2, FGH-3) shall not exceed the limits specified below:

PM		0.4	tons/yr (on a 12-month rolling total)
PM_{10}		0.4	tons/yr (on a 12-month rolling total)
$PM_{2.5}$		0.4	tons/yr (on a 12-month rolling total)
NO_x		0.6	tons/yr (on a 12-month rolling total)
CO	0.5 lb/hr	2.0	tons/yr (on a 12-month rolling total)
VOC		0.3	tons/yr (on a 12-month rolling total)
CO_2e		6,261	tons/yr (on a 12-month rolling total)

These emissions are derived from the estimated overall emission contribution from operating limits, including periods of startup and shutdown. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 11, 12, 13, 14, 15, 24, 26, 43, 59, and 61.
(9 VAC 5-50-280, 9 VAC 5-80-1705, and 9 VAC 5-80-1715)

42. **Visible Emission Limit: Combustion Turbine Generators** - Visible emissions from the combustion turbine generators (CT-1, CT-2, CT-3) shall not exceed 10 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 20 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-50-80 and 9 VAC 5-50-280)

43. **Visible Emission Limit: Fuel Gas Heaters and Auxiliary Boilers** - Visible emissions from the fuel gas heaters (FGH-1, FGH-2, FGH-3) and auxiliary boilers (B-1, B-2) shall not exceed 10 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-50-80 and 9 VAC 5-50-280)

44. **Visible Emission Limit: EG-1 and FWP-1** - Visible emissions from the emergency fire water pump (FWP-1) and diesel emergency generator (EG-1) shall not exceed 10 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-50-80 and 9 VAC 5-50-280)

CONTINUOUS MONITORING SYSTEMS

45. **CEMS: Combustion Turbine Generators -** Continuous Emission Monitoring Systems (CEMS) shall be installed to measure and record the emissions of NO_x (measured as NO_2) and CO from each combustion turbine generator (CT-1, CT-2, CT-3) in ppmvd, corrected to 15 percent O_2. CEMS for NO_x shall meet the design specifications of 40 CFR Part 75 whereas CEMS for CO shall be installed, evaluated, and operated according to the monitoring requirements in 40 CFR 60.13. The CEMS shall also measure and record the oxygen content of the flue gas at each location where NO_x and CO emissions are monitored and measure heat input and power output. A CEMS or alternative method as allowed by 40 CFR 75.11 (d) and (e) shall be used to measure sulfur dioxide emissions to comply with the

requirements of 40 CFR 75 (acid rain program monitoring). For compliance with the emission limits contained in Condition 34.a, NO_x data shall be reduced to 1-hour block averages. CO data shall be reduced to 3-hour rolling averages.
(9 VAC 5-50-350 and 9 VAC 5-50-40)

46. **CEMS Performance Evaluations -** Performance evaluations of the NO_x and, if applicable, SO_2 CEMS shall be conducted in accordance with 40 CFR Part 75, Appendix A, and shall take place during the performance tests under 9 VAC 5-50-30 or within 30 days thereafter. Two copies of the performance evaluations report shall be submitted to the Piedmont Region within 45 days of the evaluation. The continuous monitoring systems shall be installed and operational prior to conducting initial performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation and calibration of the device. A 30 day notification, prior to the demonstration of continuous monitoring system's performance, and subsequent notifications shall be submitted to the Piedmont Region.
(9 VAC 5-50-350 and 9 VAC 5-50-40)

47. **Continuous Monitoring: Combustion Turbine Generators – Greenhouse gases –** CO_2 emissions from each combustion turbine generator (CT-1, CT-2, CT-3) shall be monitored using one of the methods in 40 CFR Part 75.13. The permittee shall notify the Piedmont Regional Office as to which method was used to determine the emissions of CO_2 from the turbines. The methods in Appendix G to 40 CFR Part 75, shall be used to report annual CO_2 emissions. CH_4 and N_2O emissions shall be calculated using fuel heat value data and the emission factors found in 40 CFR Part 98, Subpart C, Table C-2. Annual CO_2e emissions shall be calculated using the global warming potential factors found in 40 CFR Part 98, Subpart A, Table A-1 for CO_2, CH_4 and N_2O.
(9 VAC 5-50-50)

48. **Continuous Monitoring: Net Power Output and Fuel Flow** – The permittee shall continuously monitor the net electrical output of each combustion turbine generator and associated steam turbine (CT-1, CT-2, CT-3), measured at the generator terminals, and the fuel flow to each combustion turbine generator to show compliance with the applicable emission limitation in Condition 35 on a 12-operating month rolling basis.
(9 VAC 5-50-40F)

49. **Continuous Monitoring Quality Control Program -** A CMS quality control program which is equivalent to the requirements of 40 CFR 75 Appendix B shall be implemented for all continuous monitoring systems.
(9 VAC 5-50-350 and 9 VAC 5-50-40)

50. **CEMS Emissions Data** – For the purposes of this permit and DEQ's emissions inventory, CEMS data shall be used to report annual emissions of NO_x and CO from the stack of each combustion turbine generator (CT-1, CT-2, CT-3) in tons/yr.
(9 VAC 5-50-50)

51. **CEMS: Excess Emissions and Monitor Downtime for NO_x and CO -** For the purpose of this permit, periods of excess emissions and monitor downtime that must be reported under Condition 53 are defined as follows:

    a. An excess emission period is an operating period in which the NO_x emission rate exceeds the applicable emission limits in Condition 34.a, 34.b, 34.c, or 34.d;

    b. An excess emission period is an operating period in which the CO emission rate exceeds the applicable emission limits in Condition 34.a, 34.b, or 34.d; and

    c. A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_x concentration, CO concentration, O_2 concentration, fuel flow rate, steam pressure, or megawatts. The steam flow rate is only required if the permittee uses this information for compliance purposes.

    (9 VAC 5-50-50, 9 VAC 5-50-410, 40 CFR 60.7(c), and 40 CFR 60.4380)

52. **Continuous Monitoring Systems: Excess Emissions and Monitor Downtime for SO_2 -** Excess emissions and monitoring downtime are defined, for the purpose of this permit, as follows:

    a. Excess emissions of SO_2 from the combustion turbine generators occurs when the 12-month rolling average sulfur content of the fuel being fired in the combustion turbine generators (CT-1, CT-2, CT-3) exceeds the applicable limit in Condition 6 based on monthly fuel testing in Condition 22. The excess emission period ends on the date that 12-month rolling average sulfur content of the fuel demonstrates compliance with the sulfur limit; and

    b. A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date of a required sample, if invalid results are obtained. The period of monitor downtime ends on the date of the next valid sample.

    (9 VAC 5-50-50, 9 VAC 5-50-280)

53. **Continuous Monitoring Excess Emissions Reports -** The permittee shall furnish written reports to the Piedmont Region of excess emissions from any process monitored by a continuous monitoring system on a quarterly basis, postmarked no later than the 30th day following the end of the calendar quarter. These reports shall include, but are not limited to the following information:

    a. The magnitude of excess emissions, any conversion factors used in the calculation of excess emissions, and the date and time of commencement and completion of each period of excess emissions;

    b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the process, the nature and cause of the malfunction (if known), the corrective action taken or preventative measures adopted;

c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and

d. When no excess emissions have occurred or the continuous monitoring systems have not been inoperative, repaired or adjusted, such information shall be stated in that report.

e. Excess emission reports for sulfur dioxide and nitrogen dioxide as required in 40 CFR 60.4395.

(9 VAC 5-50-50)

54. **CEMS: Excess Emissions** – For purposes of identifying excess emissions:

a. All CEMS data must be reduced to hourly averages as specified in 40 CFR 60.13(h);

b. For each operating hour in which a valid hourly average, as described in 40 CFR 60.4345(b), is obtained for both NO_x and diluent monitors, the data acquisition and handling system must calculate and record the hourly NO_x emission rate in units of ppm, using the appropriate equation in 40 CFR Part 60, Appendix A, Method 19. For any hour in which the hourly average O_2 concentration exceeds 19.0 percent O_2, a diluent cap value of 19.0 percent O_2 may be used in the emission calculations; and

c. Only quality assured data from the CEMS shall be used to identify excess emissions. Periods where the missing data substitution procedures in 40 CFR 75, Appendix D are applied are to be reported as monitor downtime in the excess emissions and monitoring performance report required under 40 CFR 60.7(c).

(9 VAC 5-50-50, 9 VAC 5-50-410, 40 CFR 60.7(c), and 40 CFR 60.4350)

INITIAL COMPLIANCE DETERMINATION

55. **Emissions Testing: Facility** - The permitted facility shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. This includes constructing the facility/equipment such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing a stack or duct that is free from excessive cyclonic flow as defined in 40 CFR 60 Appendix A. Sampling ports shall be provided at the appropriate locations (in accordance with the applicable performance specification in 40 CFR Part 60, Appendix B) and safe sampling platforms and access shall be provided.
(9 VAC 5-50-30 F and 9 VAC 5-80-1675)

56. **Initial Performance Test: Combustion Turbine Generators -** Initial performance tests shall be conducted for CO, PM, PM_{10}, $PM_{2.5}$, and total VOC from each combustion turbine generator (CT-1, CT-2, CT-3) to determine compliance with the emission limits contained in Condition 34.a. The tests shall be performed and demonstrate compliance within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410. Tests shall be conducted at full load. The details of the tests are to be arranged with the Piedmont Regional

Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Piedmont Regional Office within 60 days of test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-50-30, 9 VAC 5-80-1675, and 9 VAC 5-50-410)

57. **Initial Performance Test: Combustion Turbine Generators –** Initial performance tests shall be conducted on each combustion turbine generator (CT-1, CT-2, CT-3) for NO_x (as NO_2) to determine compliance with the limits contained in Condition 34.a using 40 CFR 60, Appendix A, Methods 7E or 20 to measure the NO_x concentration (in ppm) and following the performance test specifications found in 40 CFR 60.4400.The tests shall be performed, reported, and demonstrate compliance within 60 days after achieving the maximum production rate at which the unit will be operated but in no event later than 180 days after start-up of the permitted unit. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410. The details of the tests are to be arranged with the Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Piedmont Regional Office, within 60 days after test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-50-30, 9 VAC 5-50-410, and 9 VAC 5-80-1675)

58. **Initial Performance Test: Combustion Turbine Generators –** Initial performance tests shall be conducted on each combustion turbine generator (CT-1, CT-2, CT-3) for SO_2 to determine compliance with the limits contained in Condition 34.a. The permittee may use one of the following three methods (a., b. or c. below) to conduct the performance test:

    a. If the permittee chooses to periodically determine the sulfur content of the fuel combusted in the turbine, a representative fuel sample would be collected following ASTM D5287 (incorporated by reference, see 40 CFR 60.17 or by manually sampling using Gas Process Association Standard 2166) for natural gas. The fuel analyses may be performed either by the permittee, a service contractor retained by the permittee, the fuel vendor, or any other qualified agency. The samples for the total sulfur content of the fuel shall be analyzed using ASTM D1072, or alternatively D3246, D4084, D4468, D4810, D6228, D6667, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see 40 CFR 60.17).

    b. 40 CFR 60, Appendix A, Methods 6, 6C, 8, or 20 shall be used to measure the SO_2 concentration (in parts per million (ppm)). In addition, the American Society of Mechanical Engineers (ASME) standard, ASME PTC 9–10–1981–Part 10, "Flue and Exhaust Gas Analyses," manual methods for sulfur dioxide (incorporated by reference, see 40 CFR 60.17) can be used instead of EPA Methods 6 or 20.

    c. 40 CFR 60, Appendix A, Methods 6, 6C, or 8 and 3A, or 20 shall be used to measure the SO_2 and diluent gas concentrations. In addition, the permittee may use the manual methods for sulfur dioxide ASME PTC 19–10–1981–Part 10 (incorporated by reference, see 40 CFR 60.17).

The tests shall be performed, reported, and demonstrate compliance within 60 days after achieving the maximum production rate at which the unit will be operated but in no event later than 180 days after start-up of the permitted unit. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410. The details of the tests are to be arranged with the Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Piedmont Regional Office, within 60 days after test completion and shall conform to the test report format enclosed with this permit. If fuel sampling is used, as described in 58.a above, no test protocol or test report is required, however the permittee shall notify the Piedmont Regional Office as to which method was used to determine the total sulfur content of the fuel sample.
(9 VAC 5-50-30, 9 VAC 5-50-410 and 9 VAC 5-80-1675)

59. **Initial Performance Test: Auxiliary Boilers and Fuel Gas Heaters -** Initial performance tests shall be conducted for NOx and CO from the auxiliary boilers (B-1, B-2) and the fuel gas heaters (FGH-1, FGH-2, FGH-3) to determine compliance with the emission limits contained in Conditions 11 and 12, as applicable. The tests shall be performed, reported and demonstrate compliance within 60 days after the boilers or fuel gas heater, as applicable, reach the maximum load level at which the unit will be operated but in no event later than 180 days after its initial start-up. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410. The details of the tests are to be arranged with the Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Piedmont Regional Office within 60 days of test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-50-30, 9 VAC 5-80-1985 E, and 9 VAC 5-50-410)

60. **Visible Emissions Evaluation: Combustion Turbine Generators** - Concurrently with the initial performance tests, Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, shall be conducted by the permittee on each combustion turbine generator (CT-1, CT-2, CT-3). Each test shall consist of 30 sets of 24 consecutive observations (at 15 second intervals) to yield a six-minute average. The VEE shall be conducted at full load. The details of the tests are to be arranged with the Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. The evaluation shall be performed, reported, and demonstrate compliance within 60 days after achieving the maximum production rate at which the unit will be operated but in no event later than 180 days after start-up of the permitted unit. Should conditions prevent concurrent opacity observations, the Piedmont Regional Office shall be notified in writing, within seven days, and visible emissions testing shall be rescheduled within 30 days. Rescheduled testing shall be conducted under the same conditions (as possible) as the initial performance tests. One copy of the test result shall be submitted to the Piedmont Regional Office within 60 days after test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-50-30 and 9 VAC 5-80-1675)

61. **Visible Emissions Evaluation: Auxiliary Boilers and Fuel Gas Heaters -** Concurrently with the initial performance tests required in Condition 59, Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, shall be conducted by the permittee on each of the auxiliary boilers (B-1, B-2) and fuel gas heaters (FGH-1, FGH-2, FGH-3). Each test shall consist of 10 sets of 24 consecutive observations (at 15 second intervals) to yield a six-minute average. The details of the tests are to be arranged with the Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. The evaluation shall be performed, reported, and demonstrate compliance within 60 days after achieving the maximum production rate at which the boilers will be operated but in no event later than 180 days after start-up of the boiler. Should conditions prevent concurrent opacity observations, the Piedmont Regional Office shall be notified in writing, within seven days, and visible emissions testing shall be rescheduled within 30 days. Rescheduled testing shall be conducted under the same conditions (as possible) as the initial performance tests. One copy of the test result shall be submitted to the Piedmont Regional Office within 60 days after test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-50-30 and 9 VAC 5-80-1675)

62. **Testing: Power Block Heat Rate -** Initial compliance testing, using ASME Performance Test Code on Overall Plant Performance (ASME PTC 46-1996) or equivalent method approved by the Piedmont Regional Office, shall be conducted for the heat rate of the power blocks (i.e., a combination of CT-1, CT-2, CT-3 and the steam turbine generators) to show compliance with the initial limit contained in Condition 8. The testing shall be performed, reported and demonstrate compliance within 90 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after commencement of commercial operation of the permitted facility. The details of the tests are to be arranged with the Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Piedmont Regional Office within 60 days of test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-50-30 and 9 VAC 5-80-1675)

CONTINUING COMPLIANCE DETERMINATION

63. **Continuing Compliance: Combustion Turbine Generators** – The permittee shall conduct additional performance tests for VOC, PM_{10} and $PM_{2.5}$ from the combustion turbine generators (CT-1, CT-2, CT-3) to demonstrate compliance with the emission limits contained in this permit every five years. The tests shall occur no less than 54 months and no more than 66 months after the previous test. The details of the tests shall be arranged with the Piedmont Regional Office.
(9 VAC 5-50-30 and 9 VAC 5-80-1675)

64. **Annual Performance Test: Combustion Turbine Generators –** Annual performance tests shall be conducted on each combustion turbine generator (CT-1, CT-2, CT-3) for SO_2 to determine compliance with the limits contained in Condition 34.a. The permittee may use one of the following three methods (a., b. or c. below) to conduct the performance test:

a. If the permittee chooses to periodically determine the sulfur content of the fuel combusted in the turbine, a representative fuel sample would be collected following ASTM D5287 (incorporated by reference, see 40 CFR 60.17 or by manual sampling using the Gas Process Association Standard 2166) for natural gas. The fuel analyses may be performed either by the permittee, a service contractor retained by the permittee, the fuel vendor, or any other qualified agency. The samples for the total sulfur content of the fuel shall be analyzed using ASTM D1072, or alternatively D3246, D4084, D4468, D4810, D5504, D6228, D6667, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see 40 CFR 60.17).

b. 40 CFR 60, Appendix A, Methods 6, 6C, 8, or 20 shall be used to measure the SO_2 concentration (in parts per million (ppm)). In addition, the American Society of Mechanical Engineers (ASME) standard, ASME PTC 9–10–1981–Part 10, "Flue and Exhaust Gas Analyses," manual methods for sulfur dioxide (incorporated by reference, see 40 CFR 60.17) can be used instead of EPA Methods 6 or 20.

c. 40 CFR 60, Appendix A, Methods 6, 6C, or 8 and 3A, or 20 shall be used to measure the SO_2 and diluent gas concentrations. In addition, the permittee may use the manual methods for sulfur dioxide ASME PTC 19–10–1981–Part 10 (incorporated by reference, see 40 CFR 60.17).

The tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test). Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410. The details of the tests are to be arranged with the Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Piedmont Regional Office, within 60 days after test completion and shall conform to the test report format enclosed with this permit. If fuel sampling is used, as described in 64.a above, no test protocol or test report is required, however the permittee shall notify the Piedmont Regional Office as to which method was used to determine the total sulfur content of the fuel sample. (9 VAC 5-50-30, 9 VAC 5-50-410)

65. **Periodic Testing: Power Block Heat Rate**–The permittee shall conduct subsequent heat rate testing of the power blocks in accordance with Condition 62 to show compliance with the applicable heat rate contained in Condition 8 in Years 6, 12, 18, 24 and 30. After Year 30, additional tests shall be conducted between 60 and 73 months after the previous test. The details of the evaluation are to be arranged with the Piedmont Regional Office. (9 VAC 5-50-30 and 9 VAC 5-80-1675)

66. **Stack Tests: Continuing Compliance** – Upon request by DEQ, the permittee shall conduct additional performance tests to determine compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Piedmont Regional Office. (9 VAC 5-50-30 G)

RECORDS

67. **On Site Records: Facility** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Piedmont Region. These records shall include, but are not limited to:

    a. Annual hours of operation of the emergency fire water pump (FWP-1) and emergency generator (EG-1) for emergency purposes, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

    b. All fuel supplier certifications for the S15 ULSD fuel used in the diesel emergency units (EG-1 and FWP-1);

    c. Monthly and annual throughput of natural gas to each of the three combustion turbine generators (CT-1, CT-2, CT-3), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

    d. Monthly and annual throughput of natural gas to each of the auxiliary boilers (B-1, B-2) and fuel gas heaters (FGH-1, FGH-2, FGH-3), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

    e. Fuel sulfur monitoring records for the natural gas combusted in the combustion turbine generators (CT-1, CT-2, CT-3), auxiliary boilers (B-1, B-2), and fuel gas heaters (FGH-1, FGH-2, FGH-3);

    f. Monthly and annual net power output of the combustion turbine generators and associated steam turbines (CT-1, CT-2, CT-3).

    g. Continuous monitoring system emissions data, calibrations and calibration checks, percent operating time, and excess emissions;

    h. Operation and control device monitoring records for each SCR system and oxidation catalyst as required in Conditions 2 and 5;

    i. Records of alternative operating scenarios as required by Conditions 9, 10, and 23;

    j. The occurrence and duration of any startup, shutdown, or malfunction of the affected facility, any malfunction of the air pollution control equipment, or any periods during which a continuous emission monitoring system is inoperative;

    k. Results of daily AVO inspections for fugitive natural gas leak detection from the piping and components, including any repairs or other records required by Condition 19.

    l. Scheduled and unscheduled maintenance, and operator training.

m. Results of all stack tests, power block heat rate tests, visible emission evaluations, and performance evaluations.

n. Manufacturer's instructions for proper operation of equipment.

o. Records showing the circuit breakers are operating in accordance with the manufacturer's specifications (see Condition 20).

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-50-50 and 9 VAC 5-50-410)

NOTIFICATIONS

68. **Initial Notifications -** The permittee shall furnish written notification to the Piedmont Regional Office of:

a. The actual date on which construction of the electric power generation facility commenced within 30 days after such date.

b. The anticipated start-up date of the electric power generation facility postmarked not more than 60 days nor less than 30 days prior to such date.

c. The actual start-up date of the electric power generation facility within 15 days after such date.

d. The anticipated date of continuous monitoring system performance evaluations postmarked not less than 30 days prior to such date.

e. The anticipated date of performance tests of the combustion turbine generators (CT-1, CT-2, CT-3), auxiliary boilers (B-1, B-2), and the fuel gas heaters (FGH-1, FGH-2, FGH-3), postmarked at least 30 days prior to such date.

Copies of the written notification referenced in items a through e above are to be sent to:
Associate Director
Office of Air Enforcement and Compliance Assistance (3AP20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

(9 VAC 5-50-50 and 9 VAC 5-50-410)

GENERAL CONDITIONS

69. **Permit Invalidation** –This permit to construct the electric power generation facility shall become invalid, unless an extension is granted by the DEQ, if:

a. A program of continuous construction or modification is not commenced within 18 months from the date of this permit.

b. A program of construction or modification is discontinued for a period of 18 months or more, or is not completed within a reasonable time, except for a DEQ approved period between phases of the phased construction of a new stationary source or project.

(9 VAC 5-80-1985)

70. **Permit Suspension/Revocation** - This permit may be suspended or revoked if the permittee:

a. Knowingly makes material misstatements in the permit application or any amendments to it;

b. Fails to comply with the conditions of this permit;

c. Fails to comply with any emission standards applicable to a permitted emissions unit;

d. Causes emissions from the stationary source which result in violations of, or interfere with the attainment and maintenance of, any ambient air quality standard; or

e. Fails to operate in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect at the time an application for this permit is submitted.

(9 VAC 5-80-1985 F)

71. **Right of Entry** - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;

b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;

c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and

d. To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.
(9 VAC 5-170-130 and 9 VAC 5-80-1180)

72. **Maintenance/Operating Procedures** – At all times, including periods of start-up, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

b. Maintain an inventory of spare parts.

c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of such equipment. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
(9 VAC 5-50-20 E)

73. **Record of Malfunctions** – The permittee shall maintain records of the occurrence and duration of any bypass, malfunction, shutdown or failure of the facility or its associated air pollution control equipment that results in excess emissions for more than one hour. Records shall include the date, time, duration, description (emission unit, pollutant affected, cause), corrective action, preventive measures taken and name of person generating the record.
(9VAC 5-20-180 J)

74. **Notification for Facility or Control Equipment Malfunction -** The permittee shall furnish notification to the Piedmont Regional Office of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone, email, or telegraph. Such notification shall be made as soon as practicable but no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within two weeks of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Piedmont Regional Office.
(9 VAC 5-20-180 C)

75. **Violation of Ambient Air Quality Standard -** The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
(9 VAC 5-20-180 I)

76. **Change of Ownership -** In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Piedmont Regional Office of the change of ownership within 30 days of the transfer.
(9 VAC 5-80-1985 E)

77. **Permit Copy -** The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9 VAC 5-80-1985 E)

STATE-ONLY ENFORCEABLE REQUIREMENTS

The following terms and conditions are included in this permit to implement the requirements of 9 VAC 5-40-130 et seq., 9 VAC 5-50-130 et seq., 9 VAC 5-60-200 et seq. and/or 9 VAC 5-60-300 et seq. and are enforceable only by the Virginia Air Pollution Control Board. Neither their inclusion in this permit nor any resulting public comment period make these terms federally enforceable.

78. **Emission Limits: Toxic Air Pollutants –** Emissions from the electric power generation facility shall not exceed the limits specified below:

Pollutant	CAS#	Lb/hr	Tons/yr
Acrolein	107-02-8	0.051	0.23
Formaldehyde	50-00-0	2.26	9.86
Beryllium	7440-41-7	0.00015	0.00064
Cadmium	7440-43-9	0.014	0.059
Chromium	7440-47-3	0.017	0.075
Lead	7439-92-1	*	0.027
Mercury	7439-97-6	*	0.014
Nickel	7440-02-0	0.026	0.12

*Hourly emissions of these pollutants are exempt

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 4, 7, 9, 21, 79, and 80.
(9 VAC 5-60-320 and 9 VAC 5-80-1625G)

79. **(SOE) Stack Test: Toxic Air Pollutants** – An initial performance test shall be conducted for formaldehyde from each combustion turbine generator (CT-1, CT-2, CT-3) to determine compliance with the emission limits contained in Condition 78. The tests shall be performed and demonstrate compliance within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410. Tests shall be conducted at full load. The details of the tests are to be arranged with the Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Piedmont Regional Office within 60 days of test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-50-30 and 9 VAC 5-80-1675)

80. **(SOE) On Site Records: Toxic Air Pollutants –** The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Piedmont Regional Office. These records shall include, but are not limited to the average hourly (in pounds), monthly (in tons), and annual emissions (in tons) of each toxic compound listed in

Condition 78. Hourly emissions shall be calculated monthly. Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. These records shall be available for inspection by DEQ and current for at least the most recent five years.
(9 VAC 5-50-50 and 9 VAC 5-80-1625G)

SOURCE TESTING REPORT FORMAT

Report Cover

1. Plant name and location
2. Units tested at source (indicate Ref. No. used by source in permit or registration)
3. Test Dates.
4. Tester; name, address and report date

Certification

1. Signed by team leader/certified observer (include certification date)
2. Signed by responsible company official
3. *Signed by reviewer

Copy of approved test protocol

Summary

1. Reason for testing
2. Test dates
3. Identification of unit tested & the maximum rated capacity
4. *For each emission unit, a table showing:
   a. Operating rate
   b. Test Methods
   c. Pollutants tested
   d. Test results for each run and the run average
   e. Pollutant standard or limit
5. Summarized process and control equipment data for each run and the average, as required by the test protocol
6. A statement that test was conducted in accordance with the test protocol or identification & discussion of deviations, including the likely impact on results
7. Any other important information

Source Operation

1. Description of process and control devices
2. Process and control equipment flow diagram
3. Sampling port location and dimensioned cross section Attached protocol includes: sketch of stack (elevation view) showing sampling port locations, upstream and downstream flow disturbances and their distances from ports; and a sketch of stack (plan view) showing sampling ports, ducts entering the stack and stack diameter or dimensions

Test Results

1. Detailed test results for each run
2. *Sample calculations
3. *Description of collected samples, to include audits when applicable

Appendix

1. *Raw production data
2. *Raw field data
3. *Laboratory reports
4. *Chain of custody records for lab samples
5. *Calibration procedures and results
6. Project participants and titles
7. Observers' names (industry and agency)
8. Related correspondence
9. Standard procedures

_____

* Not applicable to visible emission evaluations