



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

www.deq.virginia.gov

Stefanie K. Taillon
Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director

December 19, 2025

Mr. Robert W. Sauer
VP System Operations
Virginia Electric and Power Company
600 Canal St.
Richmond, VA 23219

Location: Chesterfield County
Registration No.: 50396

Dear Mr. Sauer:

Attached is a permit to construct and operate a project - the Chesterfield Energy Reliability Center (CERC) - at 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 March 3, 2025, and solicited written public comments by placing a newspaper advertisement in the Richmond Times-Dispatch on August 8, 2025. A public hearing was held on September 8, 2025. The required comment period, provided by 9VAC5-80-1775 F, expired on October 8, 2025.

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

Please note that the simple-cycle combustion turbines may be affected facilities under 40 CFR 60 NSPS, Subpart TTTTa and 40 CFR 63 MACT, Subpart YYYY. The proposed diesel-fired generators are subject to 40 CFR 63, Maximum Achievable Control Technology, (MACT) Subpart ZZZZ. The 18.8 MMBtu/hr natural gas-fired fuel gas heater is subject to 40 CFR 63 MACT Subpart DDDDD. In summary, the units are required to comply with certain federal emission standards and operating limitations. 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 any monitoring, testing, notification, reporting and recordkeeping requirements of each MACT. Notifications and reports shall be sent to both EPA, Region III and 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 63.

The 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 DEQ 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:

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,

A handwritten signature in blue ink that reads "Jerome A. Brooks". The signature is fluid and cursive, with the first name "Jerome" and last name "Brooks" clearly legible.

Jerome Brooks, Regional Director
Virginia Department of Environmental Quality
Piedmont Regional Office
4949-A Cox Road, Glen Allen, VA 23060

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



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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,

Virginia Electric and Power Company dba Dominion Energy Virginia
600 Canal St.
Richmond, Virginia 23219
Registration No.: 50396

is authorized to construct and operate

an electric power generation facility (CERC)

located at

500 Coxendale Rd., Chester, VA

in accordance with the Conditions of this permit document.

Approved on December 19, 2025.

A handwritten signature in blue ink, reading "Jerome A. Brooks".

Jerome Brooks
Piedmont Regional Director, Department of Environmental Quality

Permit consists of 29 pages.
Permit Conditions 1 to 74.

INTRODUCTION

This permit document is based on the following permit applications:

- Prevention of Significant Deterioration/Minor New Source Review application dated December 16, 2019, including amendment information dated August 1, 2023; August 21, 2024; September 26, 2024, and March 3, 2025.

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 document shall have meanings as provided in 9VAC5-10-10 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. The enabling permit program, or permit programs is provided below each permit condition in the regulatory authority parenthetical as follows: 9VAC5-80-1180 for Article 6 and 9VAC5-80-1985 for Article 8.

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 Department of Environmental Quality (DEQ) 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 DEQ) of the Code of Virginia, and 9VAC5-170-60 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 covered by this permit consists of:

Equipment to be included in the project:

| Ref. No. | Equipment Description | Nominal Rated Capacity | Delegated Federal Requirements |
|----------|---|---|--------------------------------|
| ES-33 | GE 7FA-05 simple-cycle combustion turbine (natural gas-fired, with or without hydrogen, and #2 fuel oil), or equivalent | 2,445 MMBtu/hr NG 2,449 MMBtu/hr NG w/H 2,452 MMBtu/hr FO | NSPS, Subpart KKKK |
| ES-34 | GE 7FA-05 simple-cycle combustion turbine (natural gas-fired, with or without hydrogen, and #2 fuel oil), or equivalent | 2,445 MMBtu/hr NG 2,449 MMBtu/hr NG w/H 2,452 MMBtu/hr FO | NSPS, Subpart KKKK |
| ES-35 | GE 7FA-05 simple-cycle combustion turbine (natural gas-fired, with or without hydrogen, and #2 fuel oil), or equivalent | 2,445 MMBtu/hr NG 2,449 MMBtu/hr NG w/H 2,452 MMBtu/hr FO | NSPS, Subpart KKKK |

| Ref. No. | Equipment Description | Nominal Rated Capacity | Delegated Federal Requirements |
|---------------|---|---|--------------------------------|
| ES-36 | GE 7FA-05 simple-cycle combustion turbine (natural gas-fired, with or without hydrogen, and #2 fuel oil), or equivalent | 2,445 MMBtu/hr NG 2,449 MMBtu/hr NG w/H 2,452 MMBtu/hr FO | NSPS, Subpart KKKK |
| ES-37 | One fuel gas heater (natural gas-fired) | 18.8 MMBtu/hr | NSPS, Subpart Dc |
| ES-38 | Emergency diesel black start generator (S15 ULSD) | 3500 ekW | NSPS, Subpart IIII |
| ES-39 | Emergency diesel black start generator (S15 ULSD) | 3500 ekW | NSPS, Subpart IIII |
| ES-40 | Emergency diesel black start generator (S15 ULSD) | 3500 ekW | NSPS, Subpart IIII |
| ES-41 | Emergency diesel black start generator (S15 ULSD) | 3500 ekW | NSPS, Subpart IIII |
| ES-42 | Emergency diesel black start generator (S15 ULSD) | 3500 ekW | NSPS, Subpart IIII |
| ES-43 | Emergency diesel black start generator (S15 ULSD) | 3500 ekW | NSPS, Subpart IIII |
| ES-44 | Emergency diesel black start generator (S15 ULSD) | 3500 ekW | NSPS, Subpart IIII |
| CB1-CB16 | Sixteen electrical circuit breakers | 224 lbs SF ₆ per breaker | None |
| TK3 | Fuel oil storage tank (fixed roof vertical) for combustion turbines | 12 million gallons | None |
| TK4 thru TK10 | Seven fuel oil storage tanks (fixed roof horizontal) for black start generators | 3,500 gallons each | None |
| FUG-1 | Fugitive leaks from natural gas piping components and purged gas during maintenance and inspection activities. | - | 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

Simple-cycle gas turbine generators (ES-33, ES-34, ES-35, ES-36)

1. **Emission Controls: Turbine Generators** - Nitrogen oxide (NO_x) emissions from each of the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36) during normal operation shall be controlled as follows:
 - a. Dry, low NO_x burners and selective catalytic reduction (SCR) with a combined NO_x performance of 2.5 ppmvd at 15% O₂ (on a 4-hour rolling average using CEMS) when firing natural gas, with or without hydrogen.
 - b. SCR and water injection with a combined NO_x performance of 5 ppmvd at 15% O₂ (on a 4-hour rolling average using CEMS) when firing #2 fuel oil.

The dry low-NO_x burners, SCR, and water injection system shall be installed and operated in accordance with manufacturer's specifications. The SCR and water injection system shall be provided with adequate access for inspection. At all times after commissioning, except during alternate operating scenarios described in Conditions 8, 9, and 12, the SCR shall be in operation when the simple-cycle combustion turbine generators are operating and the water injection system shall be in operation when the turbines are combusting #2 fuel oil.
(9VAC5-80-1180 and 9VAC5-50-260)

2. Monitoring Devices: Turbine Generators – NO_x controls –

- a. Each SCR system shall be equipped with devices to continuously measure, or allow calculation of, 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 monitored by the permittee.
- b. The water injection system shall be operating during normal operations, as defined in Condition 37, when combusting #2 fuel oil to meet the emission emissions standards set forth in this permit.

(9 VAC-5-80-1180, 9VAC5-50-20 C, and 9VAC5-50-50H)

3. **Emission Controls: Turbine Generators** – Carbon monoxide (CO) emissions from each of the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36), when firing natural gas - with or without hydrogen - or #2 fuel oil, shall be controlled by an oxidation catalyst and good combustion practices (e.g., controlled fuel/air mixing, adequate temperature, and gas residence time) with a CO performance of 2.0 ppmvd at 15% O₂ (on a 4-hour rolling average using CEMS). The oxidation catalyst shall be provided with adequate access for inspection and shall be in operation when the simple-cycle combustion turbine generators are operating.
(9VAC5-80-1705 C and 9VAC5-50-280)

4. **Emission Controls: Turbine Generators** – Volatile organic compound (VOC) emissions from each of the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36) when firing natural gas - with or without hydrogen - or #2 fuel oil, shall be controlled by an oxidation catalyst and good combustion practices (e.g., controlled fuel/air mixing, adequate temperature, and gas residence time). The turbines shall achieve a VOC performance of:
 - a. When firing natural gas - with or without hydrogen: 1.0 ppmvd at 15% O₂ (on a 3-hour average based on stack testing).
 - b. When firing #2 fuel oil: 2.0 ppmvd at 15% O₂ (on a 3-hour average using stack testing).

The oxidation catalyst shall be provided with adequate access for inspection and shall be in operation when the simple-cycle combustion turbine generators are operating.
(9VAC5-80-1705 C and 9VAC5-50-280)

5. **Monitoring Devices: Turbine Generators - 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 monitored by the permittee.

(9VAC5-80-1705 C, 9VAC5-50-20 C, and 9VAC5-50-50 H)

6. **Emission Controls: Turbine Generators** – Particulate matter (PM, PM10, PM2.5), sulfur dioxide (SO₂) and sulfuric acid mist (H₂SO₄) emissions from each of the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36) shall be controlled by:
- When firing natural gas - with or without hydrogen: the use of pipeline-quality natural gas with a maximum sulfur content of 1.0 grain per 100 standard cubic feet (scf) and an average 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 27.
 - When firing #2 fuel oil: the use of #2 fuel oil with a maximum sulfur content of 15 ppmw. Compliance will be based on fuel oil certification documents as required by Condition 26.

(9VAC5-80-1180, 9VAC5-50-260, 9VAC5-80-1705 C, and 9VAC5-50-280)

7. **Emission Controls: Turbine Generators** – Greenhouse gas emissions (carbon dioxide, methane, and nitrous oxide), as carbon dioxide equivalent (CO₂e) from the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36) shall be controlled by the use of low carbon fuels (natural gas with or without hydrogen and #2 fuel oil) and efficient turbine operation (i.e., evaporative inlet air cooling/inlet fogging, periodic burner tuning, insulation to reduce heat loss, and using sophisticated instrumentation to manage CT operation). The permittee shall keep records of all technologies and work practices used to implement this requirement.

(9VAC5-80-1705 C and 9VAC5-50-280)

8. **Alternate Operating Scenario Turbine Generators - Startup/Shutdown** – The permittee shall operate and maintain each simple-cycle combustion turbine generator (ES-33, ES-34, ES-35, ES-36), all pollution control equipment, and all monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times, including during startup and shutdown. For the purpose of this permit, this condition defines startup and shutdown operating scenarios for the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36).

- Startup periods are defined as follows:
 - Startup on natural gas: the period occurring between first flame and until the unit reaches the minimum emission compliance load (MECL*). Startup on a natural gas/hydrogen fuel blend is not permitted.
 - Startup on #2 fuel oil: the period occurring between first flame and until the unit reaches MECL* (or 50% of steady-state load).
 - Regardless of items 8.a.i or 8.a.ii above, startup periods on either fuel shall not exceed 30 minutes per occurrence.

- b. Shutdown periods are defined as follows:
 - i. Shutdown while firing natural gas, with or without hydrogen: the period occurring between MECL* and flame-out of the unit.
 - ii. Shutdown while firing #2 fuel oil: the period occurring between 50% load and flame-out of the unit.
 - iii. Regardless of items 8.b.i and 8.b.ii above, shutdown periods on any fuel shall not exceed 15 minutes.
- c. The permittee shall record the time, date, duration, and fuel fired for 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 an event.
- d. During startup and shutdown, the combustion turbine SCR system (including ammonia injection), water injection system (when firing #2 fuel oil), and oxidation catalyst system shall be operated in a manner to minimize emissions, as technologically feasible, and following the SCR and water injection manufacturer's written protocol, permittee operating procedures, 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.
- e. The permittee shall operate the CEMS during periods of startup and shutdown. Emissions during startup and shutdown periods shall be included in the combined turbine generator (ES-33, ES-34, ES-35, ES-36) annual emission limits specified by Condition 39

*MECL is the minimum load level at which the applicable NO_x and CO emission limits are met, as determined by CEMS. (9VAC5-80-1180, 9VAC5-50-260, 9VAC5-80-1705, and 9VAC5-50-280)

9. **Alternate Operating Scenario Turbine Generators – Low Load Emergency (LLE) Mode:** Turbine Generators – During electric grid restoration (black start), the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36) are allowed to operate for an extended period of time at a low startup load known as low load emergency (LLE) mode, when the turbines might operate below MECL. The turbines shall only operate in LLE mode during a Pennsylvania-New Jersey-Maryland Interconnection, LLC (PJM) Independent System Operator's (ISO) declared emergency and annual readiness testing. The permittee shall operate the CEMS during LLE mode, to the extent practicable, and emissions shall be recorded and the CEMS data shall be "flagged" to indicate the beginning and end of the LLE mode and the fuel(s) being combusted during that time. The permittee shall operate the CEMS to the extent possible during events provided in this condition. 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 an event. Emissions during LLE mode shall be included in the combined turbine generator (ES-33, ES-34, ES-35, ES-36) annual emission limits specified by Condition 39.
(9VAC5-80-1180, Virginia Code 10.1-1307.02, and Virginia Code 10.1-1307.3.A.5).

10. **Alternate Operating Scenario Turbine Generators – Manual Tuning** - 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 the manual tuning operating scenario for the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36). The permittee shall develop, maintain, and operate in accordance with a written operating manual describing the general operating procedures performed for manual tuning alternate operating scenarios.
- a. For the purpose of this permit, manual tuning is defined as the manipulation of the units and the associated emission controls to ensure optimized operation and minimized emissions.
 - b. No manual tuning event shall last more than 18 consecutive hours.
 - c. Manual tuning events shall be limited to 96 hours per CT per 12-month rolling period.
 - d. The permittee shall notify the Piedmont Region no less than 24 hours prior to each declared CT tuning event unless approval for a shorter notice is given by DEQ. The notification shall include, but is not limited to, the following information:
 - i. Identification of the specific CT to be manually tuned.
 - ii. Reason for the declared manual tuning event
 - iii. Measures that will be taken to minimize the length of the declared manual tuning event.
 - e. The permittee shall furnish a report to the Piedmont Region including all pertinent facts concerning any declared manual tuning event, as soon as practicable but no later than 14 business days after the manual tuning event. The notification shall include, but is not limited to, the following information:
 - i. Identification of the CT that was manually tuned.
 - ii. The date and time of commencement and completion of the declared manual tuning events.
 - iii. NO_x and CO emissions during the declared manual tuning events.
 - f. NO_x and CO emissions during CT manual tuning events that exceed the values in Condition 37.a shall be recorded and included in the associated quarterly excess emission.
 - g. The permittee shall operate the CEMS during events provided in this condition. 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 an event. Emissions during manual tuning shall be included in the combined turbine generator (ES-33, ES-34, ES-35, ES-36) annual emission limits specified by Condition 39.

(9VAC5-80-1180, 9VAC5-50-260, 9VAC5-80-1705, and 9VAC5-50-280)

11. **Alternate Operating Scenario Turbine Generators - Fuel Type Transfer** - 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 the fuel type transfer operating scenario for the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36). The

permittee shall develop, maintain, and operate in accordance with a written operating manual describing the operating procedures performed for fuel type transfer alternate operating scenarios.

- a. For the purpose of this permit, fuel type transfer is defined as the switching between different fuels while the combustion turbines are in operation.
- b. Fuel type transfer is limited to the following:
 - i. Event 1 - Automatic or operator-initiated fuel transfer from pipeline natural gas to #2 fuel oil: The period will begin when gas usage is first reduced for the purpose of transferring to #2 fuel oil and will end when #2 fuel oil consumption and water injection have stabilized.
 - ii. Event 2 – Operator-initiated fuel transfer from #2 fuel oil to pipeline natural gas: The period will begin when the turbine's workload is reduced for the purpose of transferring to natural gas and will end when #2 distillate fuel oil usage ceases and the turbine is re-stabilized in emissions compliance mode for dry low NOx burners.
- c. Excess NOx Emissions - Excess NOx emissions from each combustion turbine shall be limited to no more than one 4-hour averaging period for any fuel type transfer event, unless specifically authorized by DEQ for longer duration prior to the event. However, in no case shall the NOx emissions exceed the limits specified in 40 CFR 60, Subpart KKKK. For each fuel type transfer event, the permittee shall:
 - i. Operate all equipment in a manner consistent with air pollution control practices for minimizing emissions.
 - ii. Record excess emissions during the fuel type transfer. The CEMS data will be "flagged" to indicate that fuel type transfer took place.
- d. NOx and CO emissions during each CT fuel transfer event that exceed the emission limits in Condition 37.a shall be recorded and included in the associated quarterly excess emission report.
- e. The permittee shall operate the CEMS during events provided in this condition. Records must include calculations of NOx and CO emissions during each event based on the CEMS data. These records must be kept for five years following the date of such an event. Emissions during a fuel type transfer shall be included in the combined turbine generator (ES-33, ES-34, ES-35, ES-36) annual emission limits specified by Condition 39.

(9VAC5-80-1180, 9VAC5-50-260, 9VAC5-80-1705, and 9VAC5-50-280)

12. **Alternate Operating Scenario Turbine Generators – Green Rotor Run-In** - 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 the green rotor run-in operating scenario for the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36). The permittee shall develop, maintain, and operate in accordance with a written operating manual describing the operating procedures performed for green rotor run-in alternate operating scenarios.

- a. For the purpose of this permit, a green rotor run-in is defined as the replacement or refurbishment of a turbine rotor, requiring the new rotor to be run at full speed, no load or electrical generation, for several hours to ensure that the unit's vibration levels and other operating conditions are acceptable.
- b. Best operational practices shall be utilized to minimize emissions during such an event
- c. A green rotor run-in event shall not exceed 12 hours in any 24-hr period, per combustion turbine.
- d. During each green rotor run-in event, NO_x emission concentrations shall not exceed the NO_x standards specified in 40 CFR 60, Subpart KKKK, based on a 4-hour average.
- e. The permittee shall notify the Piedmont Region no less than 24 hours prior to each declared green rotor run-in event unless approval for a shorter notice is given by DEQ. The notification shall include, but is not limited to, the following information:
 - i. Identification of the specific CT to undergo the green rotor run-in event.
 - ii. Measures that will be taken to minimize the length of the green rotor run-in event.
- f. The permittee shall furnish a report to the Piedmont Region including all pertinent facts concerning any green rotor run-in event, as soon as practicable but no later than 14 business days after the green rotor run-in event. The notification shall include, but is not limited to, the following information:
 - i. Identification of the CT that underwent the green rotor run-in procedure.
 - ii. The date and time of commencement and completion of the green rotor run-in event.
 - iii. NO_x and CO emissions during the green rotor run-in event.
- g. NO_x and CO emissions during each CT green rotor run-in event that exceed the emission limits in Condition 37.a shall be recorded and included in the associated quarterly excess emission report.
- h. The permittee shall operate the CEMS during events provided in this condition. 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 an event. Emissions during a green rotor run-in shall be included in the combined turbine generator (ES-33, ES-34, ES-35, ES-36) annual emission limits specified by Condition 39.

(9VAC5-80-1180, 9VAC5-50-260, 9VAC5-80-1705, and 9VAC5-50-280)

Fuel gas heater (ES-37)

13. **Emission Controls: Fuel Gas Heater** – NO_x emissions from the fuel gas heater (ES-37) shall be controlled by ultra-low NO_x burners with a NO_x performance of 0.011 lbs/MMBtu. The ultra-low NO_x burners shall be installed and operated in accordance with manufacturer's specifications.

(9VAC5-80-1180 and 9VAC5-50-260)

14. **Emission Controls: Fuel Gas Heater** - CO and VOC emissions from the fuel gas heater (ES-37) shall be controlled by good combustion practices, 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. 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 and/or procedures developed by the permittee using best engineering practices, 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 heater. These procedures shall be based on best engineering practices and/or the manufacturer's recommendations, at a minimum. All records required by this condition shall be kept on site and made available for inspection by the DEQ.
(9VAC5-80-1705 C and 9VAC5-50-280)
15. **Emission Controls: Fuel Gas Heater** – PM, PM10, PM2.5, SO₂ and H₂SO₄ emissions from the fuel gas heater (ES-37) shall be controlled by the use of good combustion practices and natural gas with an average 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 27 for the natural gas being combusted at the facility.
(9VAC5-80-1180, 9VAC5-50-260, 9VAC5-80-1705 C, and 9VAC5-50-280)
16. **Emission Controls: Fuel Gas Heater** – CO_{2e} from the fuel gas heater (ES-37) shall be controlled by the use of pipeline quality natural gas fuel and efficient design and operation.
(9VAC5-80-1705 C and 9VAC5-50-280)

Black Start Generators (ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44)

17. **Emission Controls: Diesel Generators** – The permittee must purchase engines that are certified to meet the NSPS Subpart IIII standards. PM, PM10, PM2.5, NO_x, CO, SO₂, VOC, and H₂SO₄ emissions from the black start generators (ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44) shall be controlled by good combustion practices (including efficient operation, controlled air/fuel mixing, and manufacturer's recommended maintenance) and the use of ultra-low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.
(9VAC5-80-1180, 9VAC5-50-260, 9VAC5-80-1705 C, and 9VAC5-50-280)
18. **Emission Controls: Diesel Generators** – CO_{2e} emissions from the black start generators (ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44) shall be controlled by good combustion practices including limits on hours of operation, energy-efficient operation (i.e. insulation, automated combustion controls, and minimizing air infiltration) and high-efficiency design and operation.
(9VAC5-80-1705 C and 9VAC5-50-280)
19. **Monitoring Devices: Diesel Generators** – The permittee must install a non-resettable hour meter on the black start generators (ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44) prior to the startup of each unit. The hour meters shall be provided with adequate access for inspection.
(9VAC5-80-1180 D and 9VAC5-80-1705 C)

Miscellaneous Processes

20. **Emission Controls: Storage Tanks** – The fixed-roof storage tanks (TK3 and TK4 thru 10) shall store only distillate fuel oil with a maximum true vapor pressure less than 1.5 psia. (9VAC5-80-1705 C and 9VAC5-50-280)
21. **Emission Controls: Equipment Leaks** – Fugitive emissions from purged gas during maintenance and inspection activities and from natural gas piping components (i.e., valves, flanges, and connectors) (FUG-1) at the CERC facility shall be minimized by using best management practices to prevent, detect, and repair releases of natural gas. The permittee shall develop, and maintain on site, a fugitive emission monitoring (FEM) plan describing strategies to be used, including monitoring frequency and methods. The plan shall be in effect upon declaration of commercial operation to PJM of the CERC project, as defined in Condition 65 below, and shall be available for inspection at all times. The permittee shall keep records of monitoring results and actions taken. (9VAC5-80-1705 C and 9VAC5-50-280)
22. **Emission Controls: Electrical Breakers** – Greenhouse gas emissions (SF_6) from the sixteen electrical circuit breakers (CB-1 through CB-16) 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. (9VAC5-80-1705 C and 9VAC5-50-280)

OPERATING LIMITATIONS

Simple-cycle gas turbine generators (ES-33, ES-34, ES-35, ES-36) and fuel gas heater (ES-37)

23. **Fuel: Turbine Generators** - The approved fuels for the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36) are natural gas, with or without a mix of no more than 10 percent hydrogen (by volume), and #2 fuel oil. A change in the fuel may require a permit to modify and operate. (9VAC5-80-1180 and 9VAC5-80-1705 C)
24. **Fuel Throughput: Turbine Generators** – Operation of each of the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36) shall be limited to:
- A total annual heat input rate of no more than 7,927,050 MMBtu/yr of normal operation (see note under Condition 37.a) per 12-month rolling total. Normal operation does not include commissioning, or alternate operating scenarios as defined in Conditions 8-12, except for availability testing.
 - An annual heat input rate, while firing #2 fuel oil, of no more than 1,839,000 MMBtu/yr (see note under Condition 37.a) of the total annual heat input rate limit in 24.a, per 12-month rolling total. Normal operation does not include commissioning or alternate operating scenarios defined in Conditions 8-12.

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.

(9VAC5-80-1180 and 9VAC5-80-1705 C)

25. Annual Limitations: Turbine Generators – Startup and Shutdown – In addition to the limitations in Condition 24, operation of the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36) shall be limited to:

- a. No more than a total of 2,000 startups, with no more than 480 of those startups on #2 fuel oil, per 12-month rolling total (see Condition 8.a).
- b. No more than 2,000 shutdowns, with no more than 480 of those shutdowns on #2 fuel oil, per 12-month rolling total (see Condition 8.b).

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.

(9VAC5-80-1180 and 9VAC5-80-1705 C)

26. Fuel Certification: Turbine Generators - The permittee shall obtain a certification from the fuel supplier with each shipment of #2 fuel oil. Each fuel supplier certification shall include the following:

- a. The name of the fuel supplier.
- b. The date on which the #2 fuel oil was received.
- c. The quantity of #2 fuel oil delivered in the shipment.
- d. A statement that the #2 fuel oil complies with the American Society for Testing and Materials specifications (ASTM D396) for S15 distillate fuel 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 item 26.d above. Exceedance of these specifications may be considered credible evidence of the exceedance of emission limits.

(9VAC5-80-1180 and 9VAC5-80-1705 C)

27. Fuel Monitoring: Natural Gas – 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 a maximum of 1.0 grains of total sulfur per 100 scf, or 0.4 grains per 100 scf on a 12-month rolling average in order to demonstrate that potential PM, PM10, PM2.5, SO₂, and H₂SO₄ emissions shall not exceed the limits specified in Conditions 37.a and 39 for the combustion turbine generators (ES-33, ES-34, ES-35, ES-36). The permittee shall demonstrate compliance with the sulfur content limits for natural gas in Condition 6 using one of the following:

- a. Use the fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying the total sulfur content.

- b. 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
- c. Develop custom schedules for determination of the total 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.

(9VAC5-80-1180 D, 9VAC5-50-260, and 9VAC5-50-410)

28. **Fuel: Fuel Gas Heater** - The approved fuel for the fuel gas heater (ES-37) is pipeline quality natural gas. A change in the fuel may require a permit to modify and operate.
(9VAC5-80-1180, 9VAC5-50-260, 9VAC5-80-1705 C and 9VAC5-50-280)

29. **Fuel Throughput: Fuel Gas Heater** - The fuel gas heater (ES-37) shall consume no more than a total of 161.5×10^6 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.
(9VAC5-80-1180, 9VAC5-50-260, 9VAC5-80-1705 C, and 9VAC5-50-280)

Black Start Generators (ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44)

30. **Fuel: Black Start Generators** - The approved fuel for the black start generators (ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44) is ultra-low sulfur diesel (S15 ULSD). A change in the fuel shall be considered a change in the method of operation of the engines and may require an amended permit.
(9VAC5-80-1180, 9VAC5-50-260, 9VAC5-80-1705 C and 9VAC5-50-280)

31. **Emergency Operation: Black Start Generators** – The black start generators (ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44) are allowed to be operated when required to start up a combustion turbine for system restoration during a PJM ISO-declared emergency situation to provide on-site power during an emergency; and for maintenance and testing in accordance with manufacturer's specifications.
(9VAC5-80-1180 and 9VAC5-80-1705 C)

32. **Operating Hours: Black Start Generators** - The black start generators (ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44) shall not operate more than 500 hours each per year, calculated monthly as the sum of each consecutive 12-month period. Maintenance checks and readiness testing of such units are limited to 100 hours per calendar year for each unit. 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. The permittee shall keep a log of the date, time, reason, and duration of the operation of each unit, including testing and maintenance.
(9VAC5-80-1180 and 9VAC5-80-1705 C)

33. Fuel Certification: Black Start Generators - The permittee shall obtain a certification from the fuel supplier with each shipment of S15 ULSD. Each fuel supplier certification shall include the following:

- a. The name of the fuel supplier.
- b. The date on which the S15 ULSD was received.
- c. The quantity of S15 ULSD delivered in the shipment.
- d. A statement that the diesel fuel oil complies with the ASTM specifications (ASTM D975) for S15 ULSD .

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 30. Exceedance of these specifications may be considered credible evidence of the exceedance of emission limits.

(9VAC5-80-1180 and 9VAC5-80-1705 C)

34. Maintenance and Operation: Black Start Generators - The permittee must maintain and operate the black start generators (ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44) according to the manufacturer's recommendations and/or procedures developed by the permittee using best engineering practices, over the entire life of the engine.

(9VAC5-80-1180 and 9VAC5-80-1705 C)

Fuel Storage Tanks (TK3, TK4, TK5 thru 10)

35. Throughput: Storage Tanks - The annual throughput of distillate fuel oil through the fuel storage tanks shall not exceed the following, calculated monthly as the sum of each consecutive 12-month period:

| | |
|--------------------|--------------------|
| TK3: | 60,000,000 gallons |
| TK4 thru 10 (each) | 124,000 gallons |

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.

(9VAC5-80-1705 C)

Requirements by Reference

36. Requirements by Reference: NSPS - Except where this permit is more restrictive than the applicable requirement, the NSPS equipment as described in the table below shall be operated in compliance with the requirements of 40 CFR 60, Subparts Dc, IIII, and KKKK.

| Emission Unit | NSPS Subpart |
|--|---|
| 18.8 MMBtu/hr, natural gas-fired fuel gas heater | 40 CFR 60, Subpart Dc: §60.48c(g)(2) keep monthly records of natural gas combusted. |

| Emission Unit | NSPS Subpart |
|--|---|
| 3500 kW black-start engines: 2007 model year and later emergency stationary compression ignition internal combustion engines with a displacement of less than 30 liters per cylinder that are not fire pumps | 40 CFR 60, Subpart IIII, §60.4205(b) must comply with emission standards in §60.4202(b)(2) by purchasing certified engine. §60.4207(b) use diesel fuel meeting requirements of 40 CFR 1090.305 for nonroad diesel fuel. |
| Four simple-cycle stationary combustion turbines with a heat input at peak load greater than 10 MMBtu/hr which commenced construction after February 18, 2005. | 40 CFR 60, Subpart KKKK, 60.4320(a) must meet the NO _x emission limits in Table 1 and must comply with 60.4330(a) for SO ₂ emissions. |

(9VAC5-80-1705 C, 9VAC5-50-400 and 9VAC5-50-410)

EMISSION LIMITS

37. Short-Term Emission Limits: Turbine Generators -Emissions from the operation of **each** simple-cycle combustion turbine generator (ES-33, ES-34, ES-35, ES-36), shall not exceed the limits specified below:

a. Normal operation*

| Pollutant | Short term emission limits |
|---------------------------------------|---|
| PM | 0.0072 lb/MMBtu and 11.9 lb/hr while burning 100 % natural gas 0.0063 lb/MMBtu and 11.8 lb/hr while burning natural gas & up to 10% H 0.0165 lb/MMBtu and 24 lb/hr while burning #2 fuel oil. |
| PM10 | 0.014 lb/MMBtu and 19.7 lb/hr as an average of three 1-hr test runs while burning natural gas w/ or w/o H. 0.04 lb/MMBtu and 45.0 lb/hr as an average of three 1-hr test runs while burning #2 fuel oil. |
| PM2.5 | 0.014 lb/MMBtu and 19.7 lb/hr as an average of three 1-hr test runs while burning natural gas w/ or w/o H. 0.04 lb/MMBtu and 45.0 lb/hr as an average of three 1-hr test runs while burning #2 fuel oil. |
| Carbon monoxide | 2.0 ppmvd @ 15% O ₂ as a 4-hour rolling average for all fuel combustion |
| Nitrogen Oxides (as NO ₂) | 2.5 ppmvd @ 15% O ₂ as a 4-hour rolling average while burning natural gas w/ or w/o H. 5.0 ppmvd @ 15% O ₂ as a 4-hour rolling average while burning #2 fuel oil. |
| Sulfur dioxide | 0.0034 lb/MMBtu (this limit applies at all times). |
| Volatile organic compounds | 1.0 ppmvd @ 15% O ₂ as a 3-hour average while burning natural gas w/ or w/o H. 2.0 ppmvd @ 15% O ₂ as a 3-hour average while burning #2 fuel oil. |
| Sulfuric acid mist | 0.0023 lb/MMBtu as a 3-hour average while burning 100% natural gas. 0.0023 lb/MMBtu as a 3-hour average while burning natural gas & up to 10% H 0.0013 lb/MMBtu as a 3-hour average while burning #2 fuel oil. (these limits apply at all times) |

* Normal operation does not include periods of startup and shutdown as defined in Condition 8, LLE mode as defined in Condition 9, and any operating scenarios defined in Conditions 10-12. Short-term limits for PM, PM10, PM2.5, SO₂, and H₂SO₄ reflect maximum sulfur concentration in the natural gas of 1.0 gr/100 scf.

Where:

ppmvd = parts per million by volume on a dry gas basis, corrected to 15 percent O₂.

Short-term emission limits of CO and NO_x represent averages for a 4-hour sampling period.

VOC, SO₂ and H₂SO₄ emission limits represent averages for a 3-hour sampling period.

PM10 and PM2.5 emission limits represent an average of three 1-hr test runs.

Compliance with these limits may be determined as stated in Conditions 46, 52, 54, 60, and 61.

- b. Startup and Shutdown - During each startup or shutdown event, as defined in Condition 8, emissions shall not exceed the following:

| Pollutant | Startup/Shutdown Limitations | |
|-----------------|---|------------------|
| CO | Startup event on natural gas | 366 lb/turbine |
| | Shutdown event on natural gas w/ or w/o H | 152 lb/turbine |
| | Startup event on #2 fuel oil | 1,036 lb/turbine |
| | Shutdown event on #2 fuel oil | 246 lb/turbine |
| NO _x | Startup event on natural gas | 52 lb/turbine |
| | Shutdown event on natural gas w/ or w/o H | 20 lb/turbine |
| | Startup event on #2 fuel oil | 143 lb/turbine |
| | Shutdown event on #2 fuel oil | 62 lb/turbine |

Compliance with these limits may be determined as stated in Conditions 8 and 46.

(9VAC5-80-1180, 9VAC 5-50-260, 9VAC5-60-100, 9VAC5-80-1705, 9VAC5-80-1715, and 9VAC5-50-280)

38. **Emission Limits: Turbine Generators** – GHG emissions from each of the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36) shall not exceed any of the following:

- 120 lb/MMBtu when firing with natural gas (NG CO₂e).
- 160 lb/MMBtu when firing #2 fuel oil (FO CO₂e).
- Any applicable emission limitation required by 40 CFR 60, Subpart TTTTa.

These limits apply at all times. Compliance with the CO₂e limits contained in items a. and b. above shall be demonstrated using the following equation to calculate CO₂e emissions, in lb/MMBtu for each fuel:

$$NG\ CO_2e\ lb/MMBtu = \sum [EF\ CO_2e\ ng]$$

$$FO\ CO_2e\ lb/MMBtu = \sum [EF\ CO_2e\ fo]$$

Where:

$\sum[\text{EF CO}_2\text{e ng}]$ = sum of natural gas emission factors for CO₂ (from stack test), CH₄ x GWP (from Part 98), and N₂O x GWP (from Part 98) in lb/MMBtu

$\sum[\text{EF CO}_2\text{e fo}]$ = sum of fuel oil emission factors for CO₂ (from stack test), CH₄ x GWP (from Part 98), and N₂O x GWP (from Part 98) in lb/MMBtu

(9VAC5-80-1705 and 9VAC5-50-280)

39. **Annual Process Emission Limits: Turbine Generators** – Combined emissions from the operation of the four simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36) shall not exceed the limits specified below:

| | |
|---------------------------------------|--|
| PM | 78.9 tons/yr (on a 12-month, rolling total) |
| PM10 | 150.2 tons/yr (on a 12-month, rolling total) |
| PM2.5 | 150.2 tons/yr (on a 12-month, rolling total) |
| Carbon Monoxide | 775.0 tons/yr (on a 12-month, rolling total) |
| Nitrogen Oxides (as NO ₂) | 292.0 tons/yr (on a 12-month, rolling total) |
| Sulfur Dioxide | 27.7 tons/yr (on a 12-month, rolling total) |
| Volatile Organic Compounds | 134.5 tons/yr (on a 12-month, rolling total) |
| Sulfuric Acid Mist | 18.7 tons/yr (on a 12-month, rolling total) |
| CO ₂ e | 2,194,773 tons/yr (on a 12-month, rolling total) |

These emissions are derived from the estimated overall emission contribution from operating limits and shall apply at all times, including periods described in Conditions 8 – 12. 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, 24, 25, and 27.

(9VAC5-80-1180, 9VAC5-50-260, 9VAC5-80-1705, and 9VAC5-50-280)

40. **Visible Emission Limit: Turbine Generators** - Visible emissions from the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36) 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). This condition applies at all times except during startup and shutdown.
(9VAC5-50-80 and 9VAC5-50-280)

41. **Process Emission Limits: Fuel Gas Heater** – Emissions from the operation of the fuel gas heater (ES-37) shall not exceed the limits specified below:

| | | |
|------|----------------|----------------------------|
| PM | 0.002 lb/MMBtu | 0.2 tons/yr (9VAC5-50-260) |
| PM10 | 0.007 lb/MMBtu | 0.6 tons/yr (9VAC5-50-260) |

| | | |
|---------------------------------------|----------------|------------------------------|
| PM2.5 | 0.007 lb/MMBtu | 0.6 tons/yr (9VAC5-50-280) |
| Carbon Monoxide | 0.037 lb/MMBtu | 3.1 tons/yr (9VAC5-50-280) |
| Nitrogen Oxides (as NO ₂) | 0.011 lb/MMBtu | 1.0 tons/yr (9VAC5-50-260) |
| Volatile Organic Compounds | 0.005 lb/MMBtu | 0.5 tons/yr (9VAC5-50-280) |
| CO ₂ e | | 9,644 tons/yr (9VAC5-50-280) |

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 13, 14, 15, 16, 28, 29, 42, and 57. (9VAC5-80-1180, 9VAC5-50-260, 9VAC5-80-1705, 9VAC5-80-1715, and 9VAC5-50-280)

42. **Visible Emission Limit: Fuel Gas Heater** - Visible emissions from the fuel gas heater (ES-37) shall not exceed 10 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A). Compliance with this limit shall be determined as stated in Condition 58 and any periodic monitoring required by DEQ. This condition applies at all times except during startup and shutdown.
(9VAC5-50-80 and 9VAC5-50-280)

43. **Process Emission Limits: Black Start Generators** - Emissions from the operation of each of the diesel black start generators (ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44) shall not exceed the limits specified below:

| | | | |
|---------------------------------------|---------|---------------------------------------|---|
| PM (filterable only) | 0.20 | g/kW-hr | 0.4 tons/yr (on a 12-month rolling total) |
| PM10 | 0.23 | g/kW-hr | 0.5 tons/yr (on a 12-month rolling total) |
| PM2.5 | 0.23 | g/kW-hr | 0.5 tons/yr (on a 12-month rolling total) |
| Carbon Monoxide | 3.50 | g/kW-hr | 6.8 tons/yr (on a 12-month rolling total) |
| Nitrogen Oxides (as NO ₂) | 4.48 | g/kW-hr | 8.7 tons/yr (on a 12-month rolling total) |
| Sulfur Dioxide | 0.00154 | lb/MMBtu | |
| Volatile Organic Compounds | 1.92 | g/kW-hr | 3.7 tons/yr (on a 12-month rolling total) |
| Sulfuric Acid Mist | 0.00012 | lb/MMBtu | |
| CO ₂ e | 1,380 | 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 17, 18, 19, 30, 31, 32, 33, and 34.
(9VAC5-80-1180, 9VAC5-50-260, 9VAC5-80-1705, 9VAC5-80-1715, and 9VAC5-50-280)

44. Visible Emission Limit: Black Start Generators - Visible emissions from each of the diesel black start generators (ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44) shall not exceed 10 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup and shutdown.
(9VAC5-50-80 and 9VAC5-50-280)

45. Process Emission Limits: Electrical Breakers - Emissions from the operation of the electrical circuit breakers (CB-1 through CB-16) shall not exceed the limits specified below:

Circuit Breakers CB1-CB16 combined 211 tons of CO₂e/year (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 22.

(9VAC5-80-1705 and 9VAC5-50-280)

CEMS

46. CEMS: Turbine Generators - Continuous Emission Monitoring Systems (CEMS) shall be installed to measure and record the emissions of NO_x (measured as NO₂) and CO from each simple-cycle combustion turbine generator (ES-33, ES-34, ES-35, ES-36) in ppmvd, corrected to 15 percent O₂. 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 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 37.a, NO_x and CO data shall be reduced to 4-hour rolling averages.
(9VAC5-80-1180, 9VAC5-50-40, 9VAC5-50-350, and 9VAC5-50-410)

47. CEMS Performance Evaluations for Combustion Turbine Generators - Performance evaluations of the NO_x CEMS shall be conducted in accordance with 40 CFR Part 75, Appendix A, and shall take place during the performance tests under 9VAC5-50-30 or within 30 days thereafter. One copy 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 the continuous monitoring system's performance, and subsequent notifications shall be submitted to the Piedmont Region.
(9VAC5-50-350 and 9VAC5-50-40)

48. CEMS Quality Control Program - A CEMS quality control program which is equivalent to the requirements of 40 CFR 75 Appendix B shall be implemented for all continuous monitoring systems.

(9VAC5-50-350 and 9VAC5-50-40)

49. 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 O₂ concentration exceeds 19.0 percent O₂, a diluent cap value of 19.0 percent O₂ 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, Subpart 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).

(9VAC5-50-50, 9VAC5-50-410, 40 CFR 60.7(c), and 40 CFR 60.4350)

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

- a. An excess emission is any unit normal operating period (does not apply to startup, shutdown, malfunction, or LLE operating scenarios) in which the 4-hour rolling average NO_x emission rate exceeds the applicable emission limit in Condition 37.a;
- b. 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, O₂ concentration, fuel flow rate, steam pressure, or megawatts. The steam flow rate is only required if the permittee uses this information for compliance purposes.

(9VAC5-50-50, 9VAC5-50-410, 40 CFR 60.7(c), and 40 CFR 60.4380(b))

51. CEMS: Reports - The permittee shall furnish written reports to the Piedmont Region of excess emissions from any process monitored by a continuous monitoring system (CEMS) 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 nitrogen dioxide as required in 40 CFR 60.4395.

(9VAC5-50-50)

INITIAL COMPLIANCE DETERMINATION

52. Initial Performance Test: Turbine Generators - Initial performance tests shall be conducted for PM10, PM2.5, and VOC from each simple-cycle combustion turbine generator (ES-33, ES-34, ES-35, ES-36), to determine compliance with the emission limits contained in Condition 37.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 9VAC5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9VAC5-50-410.
- Tests for PM10, PM2.5 and VOC, shall be conducted for the following operating scenarios: natural gas firing at full load and #2 fuel oil firing at full load.
- Tests for PM10 and PM2.5 shall also be conducted for two additional operating scenarios: natural gas firing at 70 percent load; and #2 fuel oil firing at 70 percent 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 45 days of test completion and shall conform to the test report format enclosed with this permit.

(9VAC5-50-30, 9VAC5-80-1675, and 9VAC5-50-1200)

53. Initial Performance Test: Turbine Generators – Initial performance tests shall be conducted on each simple-cycle combustion turbine generator (ES-33, ES-34, ES-35, ES-36) for NO_x (as NO₂) to determine compliance with the limits contained in Condition 37.a in accordance with 40 CFR Part 60, Subpart KKKK.

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 9VAC5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9VAC5-50-410. 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 45 days after test completion but no later than 180 days after startup of the permitted unit and shall conform to the test report format enclosed with this permit.

(9VAC5-50-30, 9VAC5-50-410, and 9VAC5-80-1200)

- 54. Initial Performance Test: Turbine Generators** – Initial performance tests shall be conducted on each simple-cycle combustion turbine generator (ES-33, ES-34, ES-35, ES-36) for SO₂ to determine compliance with the limits contained in Condition 37.a, in accordance with 40 CFR Part 60, Subpart KKKK.

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 9VAC5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9VAC5-50-410. 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 45 days after test completion but no later than 180 days after startup of the permitted facility and shall conform to the test report format enclosed with this permit. If fuel sampling is used, as described in Condition 26, 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.

(9VAC 5-50-30, 9VAC 5-50-410 and 9VAC 5-80-1200)

- 55. Testing: Carbon Dioxide: Turbine Generators** - Initial performance tests shall be conducted on each simple-cycle combustion turbine generator (ES-33, ES-34, ES-35, ES-36), using EPA Method 3a, in conjunction with a fuel flow meter (to determine heat input), or equivalent method approved by the Piedmont Regional Office, to determine CO₂ emissions on a lb/MMBtu basis. The testing shall be performed and reported 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 commencement of commercial operation of the permitted facility. Testing shall be conducted for each of the following scenarios when combusting 100 % natural gas and 100% fuel oil (additional testing shall be performed at such time that any of the turbines are operated on a natural gas/hydrogen blend). 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 45 days of test completion and shall conform to the test report format enclosed with this permit.

(9VAC5-50-30 and 9VAC5-80-1675)

- 56. Visible Emissions Evaluation: 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 simple-cycle combustion turbine generator (ES-33, ES-34, ES-35, ES-36). Each test shall consist of 30 sets of 24 consecutive observations (at 15 second intervals) to yield a six-minute average. At least one VEE shall be conducted for each of the operating conditions and loads for which emissions tests

are required for the stack tests contained in Condition 52. 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 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 45 days after test completion but no later than 180 days after startup of the permitted facility and shall conform to the test report format enclosed with this permit. (9VAC5-50-30 and 9VAC5-80-1675)

57. Initial Performance Test: Fuel Gas Heater - Initial performance tests shall be conducted for NO_x and CO from the fuel gas heater (ES-37) to determine compliance with the emission limits contained in Condition 41. The tests shall be performed, reported and demonstrate compliance within 60 days after the fuel gas heater has reached 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 9VAC5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9VAC5-50-410. 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 45 days of test completion but no later than 180 days after startup of the permitted unit and shall conform to the test report format enclosed with this permit. (9VAC5-50-30, 9VAC5-80-1200, 9VAC5-80-1675, and 9VAC5-50-410)

58. Visible Emissions Evaluation: Fuel Gas Heater - Concurrently with the initial performance tests in Condition 57, a Visible Emission Evaluation (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, shall be conducted by the permittee on the fuel gas heater (ES-37). The test shall consist of 10 sets of 24 consecutive observations (at 15 second intervals) to yield a six-minute average. The details of the test 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 fuel gas heater will be operated but in no event later than 180 days after start-up of the fuel gas heater.

Should conditions prevent concurrent opacity observations, the Piedmont Regional Office shall be notified 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 45 days after test completion but no later than 180 days after startup of the permitted facility and shall conform to the test report format enclosed with this permit.

(9VAC5-50-30 and 9VAC5-80-1675)

59. **Emissions Testing** - The simple-cycle electric power generating 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 cyclonic flow. Sampling ports shall be provided when requested at the appropriate locations and safe sampling platforms and access shall be provided.
(9VAC5-50-30 F and 9VAC5-80-1180)

CONTINUING COMPLIANCE DETERMINATION

60. **Annual Performance Test: Turbine Generators** – Annual performance tests shall be conducted on each of the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36) for SO₂ to determine compliance with the limits contained in Condition 37.a in accordance with 40 CFR Part 60, Subpart KKKK.

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 9VAC5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9VAC5-50-410. 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 45 days after test completion and shall conform to the test report format enclosed with this permit. If fuel sampling is used, as described in Condition 27 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.

(9VAC5-50-30, 9VAC5-80-1200, and 9VAC5-50-410)

61. **Continuing Compliance: Turbine Generators** – The permittee shall conduct additional performance tests for VOC and PM_{2.5} from each of the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36) to demonstrate compliance with the emission limits contained in this permit. 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.

(9VAC5-50-30 and 9VAC5-80-1675)

62. **Continuing Compliance: Black Start Generators** - Observations for the presence of visible emissions (VEOs) from the exhaust stack of each black start generator (ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44) shall be made once per 12-month period while operating for any allowable purpose. If visible emissions are detected during the observation or at any time, the permittee shall:

- a. Take timely corrective action such that the emissions unit resumes operation with no visible emissions, or,

- b. Conduct a visible emission evaluation (VEE) on the emissions unit exhaust stack with visible emissions in accordance with EPA Reference Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six minutes, to assure visible emissions from the emission unit is 10 percent opacity or less. If any observations exceed 10 percent opacity, the observation period shall continue until a total of 60 minutes of observation have been completed. Timely corrective action shall be taken, if necessary, such that the emissions unit resumes operation within the 10 percent opacity limit.

The permittee shall maintain written or electronic logs of operating hours and observations for each black start engine (ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44) to demonstrate compliance. The logs shall include the hours of operation for each engine, the date and time of each observation, whether visible emissions were detected during the observation, the results of all VEEs, any corrective action taken, and the name of the observer. If any emissions unit has not been operated for any period, it shall be noted in the log.

(9VAC5-50-30 and 9VAC5-80-1675)

63. **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.
(9VAC5-50-30 G and 9VAC5-80-1180)

RECORDS

64. **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. Monthly and annual heat input from fuel during normal operation for each of the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36), for each type of fuel combusted (see Condition 24.a and 24.b), 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. Monthly and annual number of startups and shutdowns for each of the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36), for each type of fuel combusted (see Condition 25.a and 25.b), 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.
 - c. Monthly and annual emissions calculations for PM₁₀, PM_{2.5}, VOC, SO₂, and CO_{2e} from the simple-cycle combustion turbines (ES-33, ES-34, ES-35, ES-36) using calculation methods approved by the Piedmont Regional Office, to verify compliance with the ton/yr emissions limitations in Condition 39. Monthly and annual emissions totals shall include contributions from all operations.

- d. Fuel quality records for the natural gas and #2 fuel oil combusted in the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36), including sulfur content (see Conditions 26 and 27).
- e. Continuous monitoring system emissions data for CO and NO_x from the simple-cycle combustion turbine generators (ES-33, ES-34, ES-35, ES-36), calibrations and calibration checks, percent operating time, and excess emissions (Conditions 46 through 51).
- f. Operation and control device monitoring records for each SCR system, water-injection system, and oxidation catalyst as required in Conditions 2 and 5.
- g. Instances of alternative operating scenarios and records required as described in Conditions 8, 9, 10, 11, and 12.
- h. 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.
- i. Calculations showing compliance with the CO₂e limit for the turbines in Condition 38, using values determined by Condition 55.
- j. All fuel supplier certifications for the S15 ULSD fuel used in the black start generators (ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44) as required by Condition 33.
- k. Documents demonstrating the black start generators (ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44) are certified to meet NSPS Subpart IIII standards.
- l. Monthly and annual hours of operation for the black start generators as per Condition 32 to demonstrate compliance with the annual emission limits in Condition 43.
- m. Monthly and annual throughput of natural gas to the fuel gas heater (ES-37) for compliance with Conditions 29 and 41, 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.
- n. Fuel quality records for the natural gas combusted in the fuel gas heater (ES-37), including sulfur content as required by Condition 15.
- o. Records showing the circuit breakers are operating in accordance with the manufacturer's specifications (see Condition 22), instances of a low pressure alarm, and action taken.
- p. Documents demonstrating the contents of the fuel tanks meets the requirements of Condition 20.
- q. Results of inspections for fugitive natural gas leak detection (Condition 21), dates and results of first and final repair attempt, any repairs performed to the piping components, and the list of difficult to repair leaking components and reason for any delay.
- r. Scheduled and unscheduled maintenance, and operator training.
- s. Results of all stack tests, visible emission evaluations, visible emission observations, and performance evaluations (Conditions 52 through 63).

- t. Manufacturer's instructions for proper operation of equipment.

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

(9VAC5-50-50 and 9VAC5-50-410)

NOTIFICATIONS

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

- a. The actual date on which construction of the CERC project commenced within 30 days after such date.
- b. The anticipated start-up date of the CERC project postmarked not more than 60 days nor less than 30 days prior to such date.
- c. The actual start-up date of the CERC project 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 CERC project 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:

Chief, Air Section
United States Environmental Protection Agency
Region III, Enforcement & Compliance Assurance Division
Air, RCRA and Toxics Branch (3ED21)
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, Pennsylvania 19103-2852

(9VAC5-50-50, 9VAC5-80-1180, and 9VAC5-80-1985)

GENERAL CONDITIONS

66. Permit Invalidation - This permit to construct the CERC project shall become invalid, unless an extension is granted by the DEQ, if:

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

(9VAC5-80-1210, 9VAC5-80-1180, and 9VAC5-80-1985)

67. 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.

(9VAC5-80-1210 G, 9VAC5-80-1180, and 9VAC5-80-1985 F)

68. 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.

(9VAC5-170-130, 9VAC5-80-1180, and 9VAC5-80-1985)

69. 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.

(9VAC5-50-20 E, 9VAC5-80-1180 D, and 9VAC5-80-1985)

70. **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, 9VAC5-80-1180 D, and 9VAC5-80-1985)

71. **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. Such notification shall be made 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 14 days 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.
(9VAC5-20-180 C, 9VAC5-80-1180, and 9VAC5-80-1985)

72. **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.
(9VAC5-20-180 I, 9VAC5-80-1180, and 9VAC5-80-1985)

73. **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.
(9VAC5-80-1240, 9VAC5-80-1180, and 9VAC5-80-1985 E)

74. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9VAC5-80-1180 and 9VAC5-80-1985 E)

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