



**AIR QUALITY PROGRAM**  
**301 39th Street, Bldg. #7**  
**Pittsburgh, PA 15201-1811**

**Minor Source/Minor Modification**  
**INSTALLATION PERMIT**

**Issued To:** U. S. Steel Mon Valley Works  
Clairton Plant  
400 State Street  
Clairton, PA 15025-1855

**ACHD Permit#:** 0052-I019

**Date of Issuance:** -----

**Expiration Date:** (See Section III.12)

**Issued By:** \_\_\_\_\_  
JoAnn Truchan, P.E.  
Section Chief, Engineering

**Prepared By:** \_\_\_\_\_  
Hafeez Ajenifuja  
Air Quality Engineer

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## TABLE OF CONTENTS

<b>I.</b>	<b>CONTACT INFORMATION.....</b>	<b>4</b>
<b>II.</b>	<b>FACILITY DESCRIPTION.....</b>	<b>5</b>
<b>III.</b>	<b>GENERAL CONDITIONS.....</b>	<b>9</b>
<b>IV.</b>	<b>SITE LEVEL TERMS AND CONDITIONS.....</b>	<b>14</b>
<b>V.</b>	<b>EMISSION UNIT LEVEL TERMS AND CONDITIONS.....</b>	<b>22</b>
	<b>A. PROCESS P001 &amp; P002: COGENERATION UNIT 1 &amp; 2.....</b>	<b>22</b>
	<b>B. PROCESS P003: EMERGENCY FIRE PUMP.....</b>	<b>36</b>
	<b>C. PROCESS P004: DEW POINT HEATERS.....</b>	<b>39</b>
	<b>D. PROCESS B009: AUXILIARY BOILER (BOILER NO. 9).....</b>	<b>41</b>
	<b>E. BOILER R2: EXISTING BOILER R2.....</b>	<b>45</b>
	<b>F. BOILERS T1 AND T2: EXISTING BOILERS T1 &amp; T2.....</b>	<b>47</b>
	<b>G. ABOVEGROUND STORAGE TANKS: NO.2 FUEL OIL.....</b>	<b>50</b>
<b>VI.</b>	<b>ALTERNATIVE OPERATING SCENARIOS.....</b>	<b>51</b>
	<b>A. COGENERATION UNIT 1 &amp; 2: SO<sub>2</sub> &amp; PM ALTERNATE CONTROL SCENARIOS.....</b>	<b>51</b>
	<b>B. LIME SILO, WASTE LIME SILO &amp; TWO (2) LIME DAY BINS.....</b>	<b>53</b>
<b>VII.</b>	<b>EMISSIONS LIMITATIONS SUMMARY.....</b>	<b>55</b>

### AMENDMENTS:

<i>DATE</i>	<i>SECTION(S)</i>
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## I. CONTACT INFORMATION

**Facility Location:** U. S. Steel Mon Valley Works  
Clairton Plant  
400 State Street  
Clairton, PA 15025-1855

**Permittee/Owner:** U. S. Steel Mon Valley Works  
Clairton Plant  
400 State Street  
Clairton, PA 15025-1855

**Permittee/Operator:** Same as Owner  
(if not Owner)

**Responsible Official:** Kurt Barshick  
**Title:** General Manager  
**Company:** U. S. Steel Mon Valley Works  
**Address:** P.O. Box 878  
Dravosburg, PA 15034  
**Telephone Number:** (412) 675-2600  
**Fax Number:** (412) 675-5407

**Facility Contact:** Jonelle Scheetz  
**Title:** Environmental Control Engineer  
**Telephone Number:** (412) 233-1015  
**Fax Number:** (412) 233-1011  
**E-mail Address:** [jsscheetz@uss.com](mailto:jsscheetz@uss.com)

### AGENCY ADDRESSES:

**ACHD Contact:** Chief Engineer  
Allegheny County Health Department  
Air Quality Program  
301 39th Street, Building #7  
Pittsburgh, PA 15201-1811

**EPA Contact:** Enforcement Programs Section (3AP12)  
USEPA Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029

## II. FACILITY DESCRIPTION

### FACILITY DESCRIPTION

U. S. Steel Mon Valley Works Clairton Plant is the largest by-products coke plant in North America. The Clairton Plant operates 10 coke batteries and produces approximately 13,000 tons of coke per day from the destructive distillation (carbonization) of more than 18,000 tons of coal. During the carbonization process, approximately 225 million cubic feet of coke oven gas are produced. The volatile products of coal contained in the coke oven gas are recovered in the by-products plant. In addition to the coke oven gas, daily production of these by-products includes 145,000 gallons of crude coal tar, 55,000 gallons of light oil, 35 tons of elemental sulfur, and 50 tons of anhydrous ammonia. The coke produced is used in the blast furnace operations in the production of molten iron for steel making.

### INSTALLATION DESCRIPTION

This is an installation of a cogeneration process, and it consist of two (2) identical trains, each with a combustion turbine followed by a heat recovery steam generating (HRSG) unit (i.e., with duct burners).

**TABLE II-1: Emission Unit Identification**

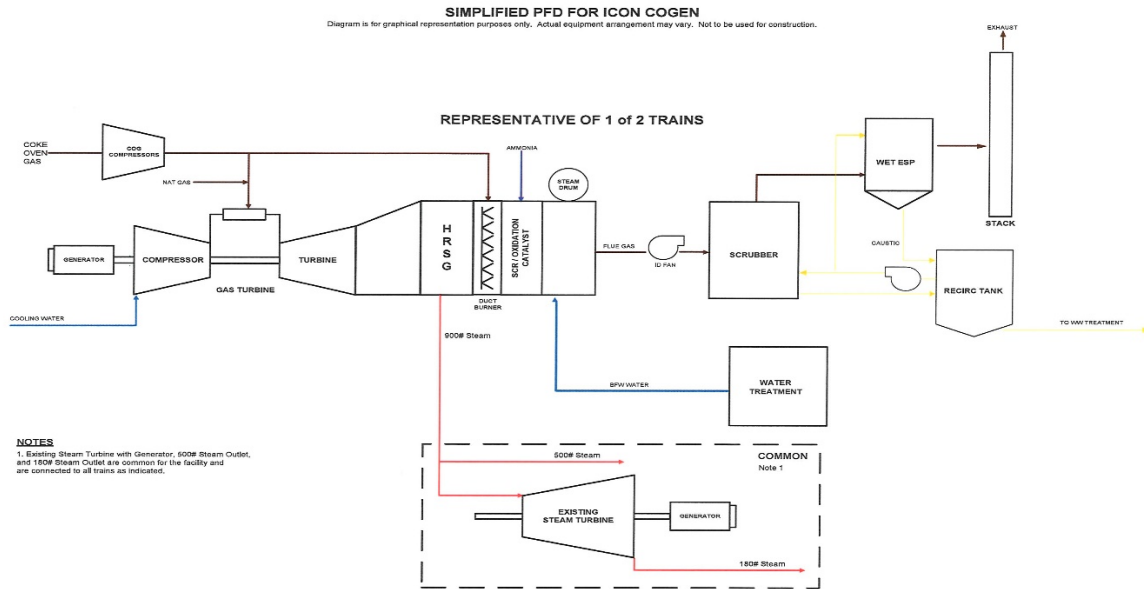
I.D.	SOURCE DESCRIPTION	CONTROL DEVICE(S)	MAXIMUM CAPACITY	FUEL/RAW MATERIAL	STACK I.D.
COGEN 1	Combustion Turbine and HRSG in Combined Cycle Mode	SCR, Wet Scrubber; Oxidation Catalyst; Wet ESP	47 MW/hr	Coke Oven Gas; Natural Gas COG/NG	COGEN 1
COGEN 2	Combustion Turbine and HRSG Unit in Combined Cycle Mode	SCR, Wet Scrubber; Oxidation Catalyst; Wet ESP	47 MW/hr	Coke Oven Gas; Natural Gas COG/NG	COGEN 2
EFP	Emergency Fire Pump	None	55kW	Diesel	FPUMP
HTR 1	Dew Point Heater 1	Low NO <sub>x</sub> Burner	3MMBtu/hr	Natural Gas	DPHTR-1
HTR 2	Dew Point Heater 1	Low NO <sub>x</sub> Burner	3MMBtu/hr	Natural Gas	DPHTR-2
B001	Auxiliary Boiler	Low NO <sub>x</sub> Burner with FGR	140 MMBtu/hr	Natural gas	AUXBLR
B006	Existing R2 Boiler (Riley Stoker)	None	229 MMBtu/hr	Coke Oven Gas	S028
B007	Existing T1 Boiler (Erie City Zurn)	None	156 MMBtu/hr	Coke Ove Gas & Natural Gas	S030
B008	Existing T2 Boiler (Erie City Zurn)	None	156 MMBtu/hr	Coke Ove Gas & Natural Gas	S031
E004	Hydrated Lime Storage Silo	Bin Vent Filter	37.5 tons	Lime	NA
E005	Waste Lime Storage Silo	Bin Vent Filter	37.5 tons	Lime	NA

E006	Hydrated Lime Day Bins (2 bins)	Bin Vent Filter	3 tons (each)	Lime	NA
F001	Paved Road	Wet Suppression; Chemical dust suppressants	1.33 miles (Lime); 1.96 miles (NH <sub>3</sub> )	-	-
T001	Storage Tank	None	200 gal	No. 2 Fuel Oil	NA

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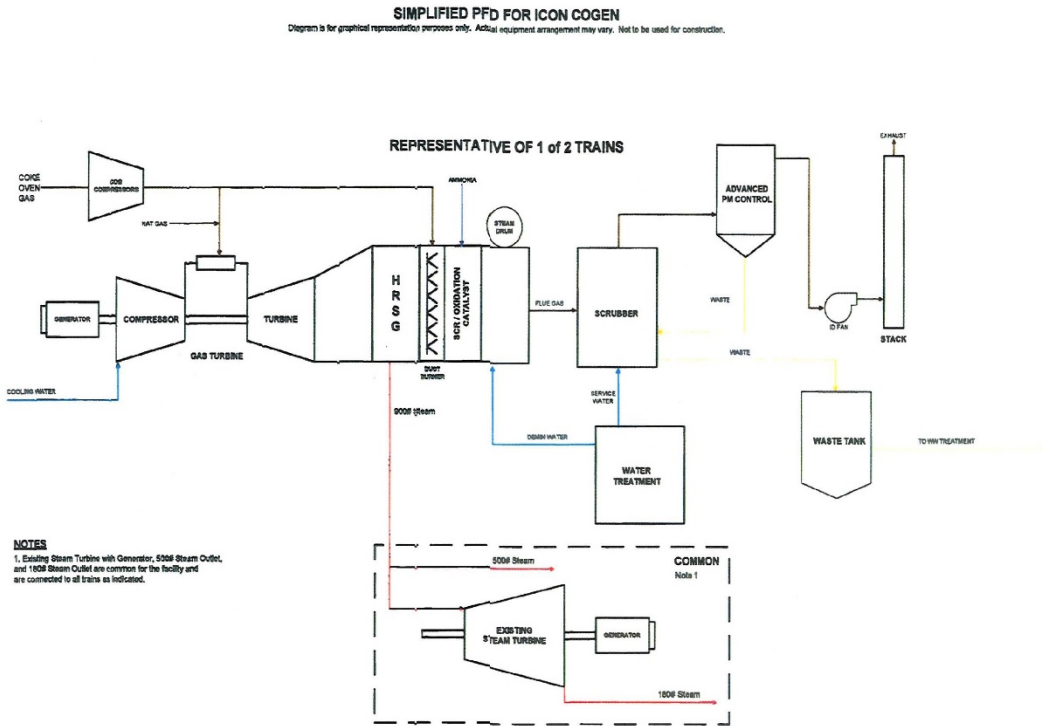
**COGENERATION PROCESS FLOW DIAGRAM**

***Flow diagram with Wet Scrubber & Wet ESP for SO<sub>2</sub> & PM Control***



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***Flow diagram with Alternate Control- Dry Scrubber & Baghouse for SO<sub>2</sub> & PM Control***





### ***DECLARATION OF POLICY***

*Pollution prevention is recognized as the preferred strategy (over pollution control) for reducing risk to air resources. Accordingly, pollution prevention measures should be integrated into air pollution control programs wherever possible, and the adoption by sources of cost-effective compliance strategies, incorporating pollution prevention, is encouraged. The Department will give expedited consideration to any permit modification request based on pollution prevention principles.*

**The permittee is subject to the terms and conditions set forth below. These terms and conditions constitute provisions of Allegheny County Health Department Rules and Regulations, Article XXI Air Pollution Control. The subject equipment has been conditionally approved for operation. The equipment shall be operated in conformity with the plans, specifications, conditions, and instructions which are part of your application, and may be periodically inspected for compliance by the Department. In the event that the terms and conditions of this permit or the applicable provisions of Article XXI conflict with the application for this permit, these terms and conditions and the applicable provisions of Article XXI shall prevail. Additionally, nothing in this permit relieves the permittee from the obligation to comply with all applicable Federal, State and Local laws and regulations.**

### **III. GENERAL CONDITIONS**

#### **1. Prohibition of Air Pollution (§2101.11)**

It shall be a violation of this permit to fail to comply with, or to cause or assist in the violation of, any requirement of this permit, or any order or permit issued pursuant to authority granted by Article XXI. The permittee shall not willfully, negligently, or through the failure to provide and operate necessary control equipment or to take necessary precautions, operate any source of air contaminants in such manner that emissions from such source:

- a. Exceed the amounts permitted by this permit or by any order or permit issued pursuant to Article XXI;
- b. Cause an exceedance of the ambient air quality standards established by Article XXI §2101.10; or
- c. May reasonably be anticipated to endanger the public health, safety, or welfare.

#### **2. Nuisances (§2101.13)**

Any violation of any requirement of this Permit shall constitute a nuisance.

#### **3. Definitions (§2101.20)**

- a. Except as specifically provided in this permit, terms used retain the meaning accorded them under the applicable provisions and requirements of Article XXI or the applicable federal or state regulation. Whenever used in this permit, or in any action taken pursuant to this permit, the words and phrases shall have the meanings stated, unless the context clearly indicates otherwise.
- b. Unless specified otherwise in this permit or in the applicable regulation, the term “year” shall mean any twelve (12) consecutive months.

**4. Certification (§2102.01)**

Any report or compliance certification submitted under this permit shall contain written certification by a responsible official as to truth, accuracy, and completeness. This certification and any other certification required under this permit shall be signed by a responsible official of the source, and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

**5. Operation and Maintenance (§2105.03)**

All air pollution control equipment required by this permit or Article XXI, and all equivalent compliance techniques that have been approved by the Department, shall be properly installed, maintained, and operated consistent with good air pollution control practice.

**6. Conditions (§2102.03.c)**

It shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02, for any person to fail to comply with any terms or conditions set forth in this permit.

**7. Transfers (§2102.03.e)**

This permit shall not be transferable from one person to another, except in accordance with Article XXI §2102.03.e and in cases of change-in-ownership which are documented to the satisfaction of the Department, and shall be valid only for the specific sources and equipment for which this permit was issued. The transfer of permits in the case of change-in-ownership may be made consistent with the administrative permit amendment procedure of Article XXI §2103.14.b.

**8. Effect (§2102.03.g)**

Issuance of this permit shall not in any manner relieve any person of the duty to fully comply with the requirements of Article XXI or any other provision of law, nor shall it in any manner preclude or affect the right of the Department to initiate any enforcement action whatsoever for violations of Article XXI or this Permit, whether occurring before or after the issuance of such permit. Further, the issuance of this permit shall not be a defense to any nuisance action, nor shall such permit be construed as a certificate of compliance with the requirements of Article XXI or this Permit.

**9. General Requirements (§2102.04.a)**

It shall be a violation of this Permit giving rise to the remedies set forth in Article XXI §2109 for any person to install, modify, replace, reconstruct, or reactivate any source or air pollution control equipment to which this Permit applies unless either:

- a. The Department has first issued an Installation Permit for such source or equipment; or
- b. Such action is solely a reactivation of a source with a current Operating Permit, which is approved under §2103.13 of Article XXI.

**10. Conditions (§2102.04.e)**

Further, the initiation of installation, modification, replacement, reconstruction, or reactivation under this

Installation Permit and any reactivation plan shall be deemed acceptance by the source of all terms and conditions specified by the Department in this permit and plan.

**11. Revocation (§2102.04.f)**

- a. The Department may, at any time, revoke this Installation Permit if it finds that:
  1. Any statement made in the permit application is not true, or that material information has not been disclosed in the application;
  2. The source is not being installed, modified, replaced, reconstructed, or reactivated in the manner indicated by this permit or applicable reactivation plan;
  3. Air contaminants will not be controlled to the degree indicated by this permit;
  4. Any term or condition of this permit has not been complied with;
  5. The Department has been denied lawful access to the premises or records, charts, instruments and the like as authorized by this Permit; or
- b. Prior to the date on which construction of the proposed source has commenced the Department may, revoke this Installation Permit if a significantly better air pollution control technology has become available for such source, a more stringent regulation applicable to such source has been adopted, or any other change has occurred which requires a more stringent degree of control of air contaminants.

**12. Term (§2102.04.g)**

This Installation Permit shall expire in 18 months if construction has not commenced within such period or shall expire 18 months after such construction has been suspended, if construction is not resumed within such period. In any event, this Installation Permit shall expire upon completion of construction, except that this Installation Permit shall authorize temporary operation to facilitate shakedown of sources and air cleaning devices, to permit operations pending issuance of a related subsequent Operating Permit, or to permit the evaluation of the air contamination aspects of the source. Such temporary operation period shall be valid for a limited time, not to exceed 180 days, but may be extended for additional limited periods, each not to exceed 120 days, except that no temporary operation shall be authorized or extended which may circumvent the requirements of this Permit.

**13. Annual Installation Permit Administrative Fee (§2102.10.c & e)**

No later than 30 days after the date of issuance of this Installation Permit and on or before the last day of the month in which this permit was issued in each year thereafter, during the term of this permit until a subsequent corresponding Operating Permit or amended Operating Permit is properly applied for, the owner or operator of such source shall pay to the Department, in addition to all other applicable emission and administration fees, an Annual Installation Permit Administration Fee in an amount of \$750.

**14. Severability Requirement (§2103.12.l)**

The provisions of this permit are severable, and if any provision of this permit is determined to by a court of competent jurisdiction to be invalid or unenforceable, such a determination will not affect the remaining provisions of this permit.

**15. Reporting Requirements (§2103.12.k)**

- a. The permittee shall submit reports of any required monitoring at least every six (6) months. All

instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by the Responsible Official.

- b. Prompt reporting of deviations from permit requirements is required, including those attributable to upset conditions as defined in this permit and Article XXI §2108.01.c, the probable cause of such deviations, and any corrective actions or preventive measures taken.
- c. All reports submitted to the Department shall comply with the certification requirements of General Condition III.4 above.
- d. Semiannual reports required by this permit shall be submitted to the Department as follows:
  1. One semiannual report is due by July 31 of each year for the time period beginning January 1 and ending June 30.
  2. One semiannual report is due by February 1 of each year for the time period beginning July 1 and ending December 31.
- e. Reports may be emailed to the Department at [aqreports@alleghenycounty.us](mailto:aqreports@alleghenycounty.us) in lieu of mailing a hard copy.

**16. Minor Installation Permit Modifications (§2102.10.d)**

Modifications to this Installation Permit may be applied for but only upon submission of an application with a fee in the amount of \$300 and where:

- a. No reassessment of any control technology determination is required; and
- b. No reassessment of any ambient air quality impact is required.

**17. Violations (§2104.06)**

The violation of any emission standard established by this Permit shall be a violation of this Permit giving rise to the remedies provided by Article §2109.02.

**18. Other Requirements Not Affected (§2105.02)**

Compliance with the requirements of this permit shall not in any manner relieve any person from the duty to fully comply with any other applicable federal, state, or county statute, rule, regulation, or the like, including, but not limited to, any applicable NSPSs, NESHAPs, MACTs, or Generally Achievable Control Technology standards now or hereafter established by the EPA, and any applicable requirement of BACT or LAER as provided by Article XXI, any condition contained in this Installation Permit and/or any additional or more stringent requirements contained in an order issued to such person pursuant to Part I of Article XXI.

**19. Other Rights and Remedies Preserved (§2109.02.b)**

Nothing in this permit shall be construed as impairing any right or remedy now existing or hereafter created in equity, common law or statutory law with respect to air pollution, nor shall any court be deprived of such jurisdiction for the reason that such air pollution constitutes a violation of this permit

**20. Penalties, Fines, and Interest (§2109.07.a)**

A source that fails to pay any fee required under this Permit or article XXI when due shall pay a civil penalty of 50% of the fee amount, plus interest on the fee amount computed in accordance with of Article XXI §2109.06.a.4 from the date the fee was required to be paid. In addition, the source may have its permit revoked.

**21. Appeals (§2109.10)**

In accordance with State Law and County regulations and ordinances, any person aggrieved by an order or other final action of the Department issued pursuant to Article XXI shall have the right to appeal the action to the Director in accordance with the applicable County regulations and ordinances.

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#### IV. SITE LEVEL TERMS AND CONDITIONS

##### 1. Reporting of Upset Conditions (§2103.12.k.2)

The permittee shall promptly report all deviations from permit requirements, including those attributable to upset conditions as defined in Article XXI §2108.01.c, the probable cause of such deviations, and any corrective actions or preventive measures taken.

##### 2. Visible Emissions (§2104.01.a)

Except as provided for by Article XXI §2108.01.d pertaining to a cold start, no person shall operate, or allow to be operated, any source in such manner that the opacity of visible emissions from a flue or process fugitive emissions from such source, excluding uncombined water:

- a. Equal or exceed an opacity of 20% for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or,
- b. Equal or exceed an opacity of 60% at any time.

##### 3. Odor Emissions (§2104.04) (County-only enforceable)

No person shall operate, or allow to be operated, any source in such manner that emissions of malodorous matter from such source are perceptible beyond the property line.

##### 4. Materials Handling (§2104.05)

The permittee shall not conduct, or allow to be conducted, any materials handling operation in such manner that emissions from such operation are visible at or beyond the property line.

##### 5. Operation and Maintenance (§2105.03)

All air pollution control equipment required by this permit or any order under Article XXI, and all equivalent compliance techniques approved by the Department, shall be properly installed, maintained, and operated consistently with good air pollution control practice.

##### 6. Open Burning (§2105.50)

No person shall conduct, or allow to be conducted, the open burning of any material, except where the Department has issued an Open Burning Permit to such person in accordance with Article XXI §2105.50 or where the open burning is conducted solely for the purpose of non-commercial preparation of food for human consumption, recreation, light, ornament, or provision of warmth for outside workers, and in a manner which contributes a negligible amount of air contaminants.

##### 7. Shutdown of Control Equipment (§2108.01.b)

- a. In the event any air pollution control equipment is shut down for reasons other than a breakdown, the person responsible for such equipment shall report, in writing, to the Department the intent to shut down such equipment at least 24 hours prior to the planned shutdown. Notwithstanding the submission of such report, the equipment shall not be shut down until the approval of the Department is obtained; provided, however, that no such report shall be required if the source(s) served by such air pollution control equipment is also shut down at all times that such equipment

is shut down.

- b. The Department shall act on all requested shutdowns as promptly as possible. If the Department does not take action on such requests within ten (10) calendar days of receipt of the notice, the request shall be deemed denied, and upon request, the owner or operator of the affected source shall have a right to appeal in accordance with the provisions of Article XI.
- c. The prior report required by Site Level Condition IV.7.a above shall include:
  - 1. Identification of the specific equipment to be shut down, its location and permit number (if permitted), together with an identification of the source(s) affected;
  - 2. The reasons for the shutdown;
  - 3. The expected length of time that the equipment will be out of service;
  - 4. Identification of the nature and quantity of emissions likely to occur during the shutdown;
  - 5. Measures, including extra labor and equipment, which will be taken to minimize the length of the shutdown, the amount of air contaminants emitted, or the ambient effects of the emissions;
  - 6. Measures which will be taken to shut down or curtail the affected source(s) or the reasons why it is impossible or impracticable to shut down or curtail the affected source(s) during the shutdown; and
  - 7. Such other information as may be required by the Department.

#### **8. Breakdowns (§2108.01.c)**

- a. In the event that any air pollution control equipment, process equipment, or other source of air contaminants breaks down in such manner as to have a substantial likelihood of causing the emission of air contaminants in violation of this permit, or of causing the emission into the open air of potentially toxic or hazardous materials, the person responsible for such equipment or source shall immediately, but in no event later than sixty (60) minutes after the commencement of the breakdown, notify the Department of such breakdown and shall, as expeditiously as possible but in no event later than seven (7) days after the original notification, provide written notice to the Department.
- b. To the maximum extent possible, all oral and written notices required shall include all pertinent facts, including:
  - 1. Identification of the specific equipment which has broken down, its location and permit number (if permitted), together with an identification of all related devices, equipment, and other sources which will be affected.
  - 2. The nature and probable cause of the breakdown.
  - 3. The expected length of time that the equipment will be inoperable or that the emissions will continue.
  - 4. Identification of the specific material(s) which are being, or are likely to be emitted, together with a statement concerning its toxic qualities, including its qualities as an irritant, and its potential for causing illness, disability, or mortality.
  - 5. The estimated quantity of each material being or likely to be emitted.
  - 6. Measures, including extra labor and equipment, taken or to be taken to minimize the length of the breakdown, the amount of air contaminants emitted, or the ambient effects of the emissions, together with an implementation schedule.

7. Measures being taken to shut down or curtail the affected source(s) or the reasons why it is impossible or impractical to shut down the source(s), or any part thereof, during the breakdown.
  - c. Notices required shall be updated, in writing, as needed to advise the Department of changes in the information contained therein. In addition, any changes concerning potentially toxic or hazardous emissions shall be reported immediately. All additional information requested by the Department shall be submitted as expeditiously as practicable.
  - d. Unless otherwise directed by the Department, the Department shall be notified whenever the condition causing the breakdown is corrected or the equipment or other source is placed back in operation by no later than 9:00 AM on the next County business day. Within seven (7) days thereafter, written notice shall be submitted pursuant to Paragraphs a and b above.
  - e. Breakdown reporting shall not apply to breakdowns of air pollution control equipment which occur during the initial startup of said equipment, provided that emissions resulting from the breakdown are of the same nature and quantity as the emissions occurring prior to startup of the air pollution control equipment.
  - f. In no case shall the reporting of a breakdown prevent prosecution for any violation of this permit or Article XXI.

**9. Cold Start (§2108.01.d)**

In the event of a cold start on any fuel-burning or combustion equipment, except stationary internal combustion engines and combustion turbines used by utilities to meet peak load demands, the person responsible for such equipment shall report in writing to the Department the intent to perform such cold start at least 24 hours prior to the planned cold start. Such report shall identify the equipment and fuel(s) involved and shall include the expected time and duration of the startup. Upon written application from the person responsible for fuel-burning or combustion equipment which is routinely used to meet peak load demands and which is shown by experience not to be excessively emissive during a cold start, the Department may waive these requirements and may instead require periodic reports listing all cold starts which occurred during the report period. The Department shall make such waiver in writing, specifying such terms and conditions as are appropriate to achieve the purposes of Article XXI. Such waiver may be terminated by the Department at any time by written notice to the applicant.

**10. Monitoring of Malodorous Matter Beyond Facility Boundaries (§2104.04)**

The permittee shall take all reasonable action as may be necessary to prevent malodorous matter from becoming perceptible beyond facility boundaries. Further, the permittee shall perform such observations as may be deemed necessary along facility boundaries to ensure that malodorous matter beyond the facility boundary in accordance with Article XXI §2107.13 is not perceptible and record all findings and corrective action measures taken.

**11. Emissions Inventory Statements (§2108.01.e & g)**

- a. Emissions inventory statements in accordance with §2108.01.e shall be submitted to the Department by March 15 of each year for the preceding calendar year. The Department may require more frequent submittals if the Department determines that more frequent submissions are required by the EPA or that analysis of the data on a more frequent basis is necessary to



implement the requirements of Article XXI or the Clean Air Act.

- b. The failure to submit any report or update within the time specified, the knowing submission of false information, or the willful failure to submit a complete report shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

#### 12. Orders (§2108.01.f)

In addition to meeting the requirements Site Level Conditions IV.7 through IV.11, inclusive, the person responsible for any source shall, upon order by the Department, report to the Department such information as the Department may require in order to assess the actual and potential contribution of the source to air quality. The order shall specify a reasonable time in which to make such a report.

#### 13. Violations (§2108.01.g)

The failure to submit any report or update thereof required by Site Level Conditions IV.7 through IV.12 above, inclusive, within the time specified, the knowing submission of false information, or the willful failure to submit a complete report shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

#### 14. Emissions Testing (§2108.02)

- a. **Orders:** No later than 60 days after achieving full production or 120 days after startup, whichever is earlier, the permittee shall conduct, or cause to be conducted, such emissions tests as are specified by the Department to demonstrate compliance with the applicable requirements of this permit and shall submit the results of such tests to the Department in writing. Upon written application setting forth all information necessary to evaluate the application, the Department may, for good cause shown, extend the time for conducting such tests beyond 120 days after startup but shall not extend the time beyond 60 days after achieving full production. Emissions testing shall comply with all applicable requirements of Article XXI, §2108.02.e.
- b. **Tests by the Department:** Notwithstanding any tests conducted pursuant to this permit, the Department or another entity designated by the Department may conduct emissions testing on any source or air pollution control equipment. At the request of the Department, the permittee shall provide adequate sampling ports, safe sampling platforms and adequate utilities for the performance of such tests.
- c. **Testing Requirements:** No later than 45 days prior to conducting any tests required by this permit, the person responsible for the affected source shall submit for the Department's approval a written test protocol explaining the intended testing plan, including any deviations from standard testing procedures, the proposed operating conditions of the source during the test, calibration data for specific test equipment and a demonstration that the tests will be conducted under the direct supervision of persons qualified by training and experience satisfactory to the Department to conduct such tests. In addition, at least 30 days prior to conducting such tests, the person responsible shall notify the Department in writing of the time(s) and date(s) on which the tests will be conducted and shall allow Department personnel to observe such tests, record data, provide pre-weighed filters, analyze samples in a County laboratory and to take samples for independent analysis. Test results shall be comprehensively and accurately reported in the units of measurement specified by the applicable emission limitations of this permit.

- d. Test methods and procedures shall conform to the applicable reference method set forth in this permit or Article XXI Part G, or where those methods are not applicable, to an alternative sampling and testing procedure approved by the Department consistent with Article XXI §2108.02.e.2.
- e. **Violations:** The failure to perform tests as required by this permit or an order of the Department, the failure to submit test results within the time specified, the knowing submission of false information, the willful failure to submit complete results, or the refusal to allow the Department, upon presentation of a search warrant, to conduct tests, shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

**15. Abrasive Blasting (§2105.51)**

- a. Except where such blasting is a part of a process requiring an operating permit, no person shall conduct or allow to be conducted, abrasive blasting or power tool cleaning of any surface, structure, or part thereof, which has a total area greater than 1,000 square feet unless such abrasive blasting complies with all applicable requirements of Article XXI §2105.51.
- b. In addition to complying with all applicable provisions of §2105.51, no person shall conduct, or allow to be conducted, abrasive blasting of any surface unless such abrasive blasting also complies with all other applicable requirements of Article XXI unless such requirements are specifically addressed by §2105.51.

**16. Asbestos Abatement (§2105.62, §2105.63)**

In the event of removal, encasement, or encapsulation of Asbestos-Containing Material (ACM) at a facility or in the event of the demolition of any facility, the permittee shall comply with all applicable provisions of Article XXI §2105.62 and §2105.63.

**17. Volatile Organic Compound Storage Tanks (§2105.12.a)**

No person shall place or store, or allow to be placed or stored, a volatile organic compound having a vapor pressure of 1.5 psia or greater under actual storage conditions in any aboveground stationary storage tank having a capacity equal to or greater than 2,000 gallons but less than or equal to 40,000 gallons, unless there is in operation on such tank pressure relief valves which are set to release at the higher of 0.7 psig of pressure or 0.3 psig of vacuum or at the highest possible pressure and vacuum in accordance with State or local fire codes, National Fire Prevention Association guidelines, or other national consensus standard approved in writing by the Department. Petroleum liquid storage vessels that are used to store produced crude oil and condensate prior to lease custody transfer are exempt from these requirements.

**18. Permit Source Premises (§2105.40)**

- a. **General.** No person shall operate, or allow to be operated, any source for which a permit is required by Article XXI Part C in such manner that emissions from any open land, roadway, haul road, yard, or other premises located upon the source or from any material being transported within such source or from any source-owned access road, haul road, or parking lot over five (5) parking spaces:
  - 1. Are visible at or beyond the property line of such source;

2. Have an opacity of 20% or more for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or
3. Have an opacity of 60% or more at any time.

- b. **Deposition on Other Premises:** Visible emissions from any solid or liquid material that has been deposited by any means from a source onto any other premises shall be considered emissions from such source within the meaning of Site Level Condition IV.18.a above.

#### 19. Parking Lots and Roadways (§2105.42)

- a. The permittee shall not maintain for use, or allow to be used, any parking lot over 50 parking spaces or used by more than 50 vehicles in any day or any other roadway carrying more than 100 vehicles in any day or 15 vehicles in any hour in such manner that emissions from such parking lot or roadway:
  1. Are visible at or beyond the property line;
  2. Have an opacity of 20% or more for a period or periods aggregating more than three (3) minutes in any 60-minute period; or
  3. Have an opacity of 60% or more at any time.
- b. Visible emissions from any solid or liquid material that has been deposited by any means from a parking lot or roadway onto any other premises shall be considered emissions from such parking lot or roadway.
- c. Site Level Condition IV.19.a above shall apply during any repairs or maintenance done to such parking lot or roadway.
- d. Notwithstanding any other provision of this permit, the prohibitions of Site Level Condition IV.19 may be enforced by any municipal or local government unit having jurisdiction over the place where such parking lots or roadways are located. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violations of Site Level Condition IV.19.

#### 20. Permit Source Transport (§2105.43)

- a. No person shall transport, or allow to be transported, any solid or liquid material outside the boundary line of any source for which a permit is required by Article XXI Part C in such manner that there is any visible emission, leak, spill, or other escape of such material during transport.
- b. Notwithstanding any other provision of this permit, the prohibitions of Site Level Condition IV.20 may be enforced by any municipal or local government unit having jurisdiction over the place where such visible emission, leak, spill, or other escape of material during transport occurs. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violation of Site Level Condition IV.20.

**21. Construction and Land Clearing (§2105.45)**

- a. No person shall conduct, or allow to be conducted, any construction or land clearing activities in such manner that the opacity of emissions from such activities:
  1. Equal or exceed 20% for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or
  2. Equal or exceed 60% at any time.
- b. Notwithstanding any other provision of this permit, the prohibitions of Site Level Condition IV.21 may be enforced by any municipal or local government unit having jurisdiction over the place where such construction or land clearing activities occur. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violations of Site Level Condition IV.21.

**22. Mining (§2105.46)**

No person shall conduct, or allow to be conducted, any mining activities in such manner that emissions from such activities:

- a. Are visible at or beyond the property line;
- b. Have an opacity of 20% or more for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or,
- c. Have an opacity of 60% or more at any time.

**23. Demolition (§2105.47)**

- a. No person shall conduct, or allow to be conducted, any demolition activities in such manner that the opacity of the emissions from such activities equal or exceed 20% for a period or periods aggregating more than three (3) minutes in any 60-minute period.
- b. Notwithstanding any other provisions of this permit, the prohibitions of Site Level Condition IV.23 may be enforced by any municipal or local government unit having jurisdiction over the place where such demolition activities occur. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violations of Site Level Condition IV.23.

**24. Fugitive Emissions (§2105.49)**

The person responsible for a source of fugitive emissions, in addition to complying with all other applicable provisions of this permit shall take all reasonable actions to prevent fugitive air contaminants from becoming airborne. Such actions may include, but are not limited to:

- a. The use of asphalt, oil, water, or suitable chemicals for dust control;
- b. The paving and maintenance of roadways, parking lots and the like;
- c. The prompt removal of earth or other material which has been deposited by leaks from transport, erosion or other means;
- d. The adoption of work or other practices to minimize emissions;
- e. Enclosure of the source; and

- f. The proper hooding, venting, and collection of fugitive emissions.

**25. Episode Plans (§2106.02)**

The permittee shall upon written request of the Department, submit a source curtailment plan, consistent with good industrial practice and safe operating procedures, designed to reduce emissions of air contaminants during air pollution episodes. Such plans shall meet the requirements of Article XXI §2106.02.

**26. New Source Performance Standards (§2105.05)**

- a. It shall be a violation of this permit giving rise to the remedies provided by §2109.02 of Article XXI for any person to operate, or allow to be operated, any source in a manner that does not comply with all requirements of any applicable NSPS now or hereafter established by the EPA, except if such person has obtained from EPA a waiver pursuant to Section 111 or Section 129 of the Clean Air Act or is otherwise lawfully temporarily relieved of the duty to comply with such requirements.
- b. Any person who operates, or allows to be operated, any source subject to any NSPS shall conduct, or cause to be conducted, such tests, measurements, monitoring and the like as is required by such standard. All notices, reports, test results and the like as are required by such standard shall be submitted to the Department in the manner and time specified by such standard. All information, data and the like which is required to be maintained by such standard shall be made available to the Department upon request for inspection and copying.

**27. National Emission Standards for Hazardous Air Pollutants (§2104.08)**

- a. The permittee shall comply with each applicable emission limitation, work practice standard, and operation and maintenance requirement of 40 CFR Part 63, Subpart DDDDD – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters*.

**28. Facility-wide Emission Limitations**

On or before 90 days after the initial startup and final commissioning of both new Cogeneration units, the permittee shall permanently shutdown the three (3) existing Boiler No. 1, Boiler No. 2 and Boiler R1. [§2102.04.b.6]

- 29.** The permittee shall not operate, or allow to be operated, any source in such manner that unburned coke oven gas is emitted into the open air. In addition, the permittee shall not flare, mix, or combust coke oven gas, or allow such gas to be flared, mixed or combusted unless the concentration of sulfur compounds, measured as hydrogen sulfide, in such gas is less than or equal to 35 grains per hundred dry standard cubic feet of coke oven gas produced by Clairton Plant, when all sulfur emissions from the Claus Sulfur Recovery Plant and the tail gas cleaning equipment thereon, expressed as equivalent H<sub>2</sub>S are added to the measured H<sub>2</sub>S. The concentration of sulfur compounds specified shall include the tail-gas sulfur, measured as hydrogen sulfide, emitted from sulfur removal equipment. [§2105.21.h].

## V. EMISSION UNIT LEVEL TERMS AND CONDITIONS

### A. Process P001 & P002: Cogeneration Unit 1 & 2

**Process Description:** Combustion Turbines & Heat Recovery Steam Generating Units  
**Facility ID:** Cogen 1 & Cogen 2  
**Max. Design Rate:** 637 MMBtu/hr (Combustion Turbines) & 437 MMBtu/hr (Heat Recovery Steam Generating Units Duct Burners) (47 MW/hr @ 50°F), each  
**Raw Materials:** Coke Oven Gas; Natural Gas & COG/NG  
**Control Device:** Oxidation Catalyst; SCR with Water Injection; Wet Scrubber, Wet ESP  
**CEM:** NO<sub>x</sub>

#### 1. Restrictions:

- a. The permittee shall only combust coke oven gas, natural gas or a blend of coke oven gas and natural gas in the combustion turbines 1 & 2. [§2102.04.b.6; §2103.12.a.2.B; §2103.12.a.2.D]
- b. The permittee shall only combust coke oven gas in the heat recovery steam generation units (HRSG) 1 & 2. [§2102.04.b.6; §2103.12.a.2.B; §2103.12.a.2.D]
- c. Heat input to each combustion turbine 1 & combustion turbine 2 shall be limited to 637 MMBtu/hr. [§2102.04.b.6; §2103.12.a.2.B; §2103.12.a.2.D]
- d. Heat input to each HRSG 1 and HRSG 2 duct burner shall be limited to 437 MMBtu/hr. [§2102.04.b.6; §2103.12.a.2.B; §2103.12.a.2.D]
- e. The nitrogen oxide (NO<sub>x</sub>) emissions from each cogen 1 and cogen 2 (combustion turbine + duct burner) shall not exceed 7.5 ppm at 15% oxygen (O<sub>2</sub>). [§2102.04.b.6; §2103.12.a.2.D]
- f. Ammonia slip shall not exceed 2 ppm<sub>vd</sub> at 15% oxygen (O<sub>2</sub>). [§2102.04.b.6; §2103.12.a.2.D]
- g. The nitrogen oxide (NO<sub>x</sub>) emissions from each combustion turbines 1 and 2 shall not exceed 25 ppm at 15% oxygen (O<sub>2</sub>) when combusting natural gas. Compliance with condition V.A.1.e will verify compliance with this condition. [§60.4320(a); §60.4325; §2102.04.b.6; §2103.12.a.2.D]
- h. The nitrogen oxide (NO<sub>x</sub>) emissions from each combustion turbines 1 & 2 shall not exceed 74 ppm at 15% oxygen (O<sub>2</sub>) when combusting greater than 50% of coke oven gas. Compliance with condition V.A.1.e will verify compliance with this condition. [§60.4320(a); §60.4325; §2102.04.b.6; §2103.12.a.2.D]
- i. Emissions of sulfur oxides (SO<sub>2</sub>) from each cogen units 1 & 2 shall not exceed 0.0239 lb/MMBtu. [§2102.04.b.6; §2103.12.a.2.D; §60.4330(a)(2)]
- j. The permittee must comply with either conditions V.A.1.j.1 or V.A.1.j.2 below: [§60.4330]
  1. The permittee must not cause to be discharged into the atmosphere from the subject stationary combustion turbine any gases which contain SO<sub>2</sub> in excess of 110 nanograms per joule (ng/J) (0.90 pounds per megawatt-hour (lb/MWh)) gross output. [§60.4330(a)(1)]

- 2. The permittee must not burn in the subject stationary combustion turbine any fuel, which contains total potential sulfur emissions in excess of 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input. If the turbine simultaneously fires multiple fuels, each fuel must meet this requirement [§60.4330(a)(2)]
- k. Compliance with condition V.A.1.i assures compliance with condition V.A.1.j.2. [§2102.04.b.6; §2103.12.a.2.D]
- l. Emissions of carbon monoxide (CO) from each cogen units 1 & 2 shall not exceed 2.6 ppm at 15% oxygen (O<sub>2</sub>). [§2102.04.b.6; §2103.12.a.2.D]
- m. Emissions of PM/PM<sub>10</sub>/PM<sub>2.5</sub> from each cogen units 1 & 2 shall not exceed 0.014 lb/MMBtu. [§2102.04.b.6; §2103.12.a.2.D]
- n. Emissions from each cogen units 1 & 2 shall not exceed the following: [§2103.12.a.2.B; §2103.12.a.2.D]

**TABLE V-A-1: Cogeneration Unit Emission Limitations per Unit**

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	7.90	4.69
PM <sub>10</sub>	7.90	18.40
PM <sub>2.5</sub>	7.90	18.40
Nitrogen Oxide**	25.94	94.66
Carbon Monoxide**	5.51	19.33
Sulfur Dioxide	24.71	87.11
Volatile Organic Compound**	5.89	15.51
Ammonia	2.56	9.26
Lead	0.00073	0.0031

\*A year is defined as any consecutive 12-month period.

\*\*The emissions limit includes planned SUSD limit of 0.9 tpy of NO<sub>x</sub>; 2.8 tpy of CO & 1.6 tpy of VOC

**2. Testing Requirements:**

- a. The permittee shall perform the following for the initial performance test for the NO<sub>x</sub> CEM emissions. [§60.4405]:
  - 1. Perform a minimum of nine RATA reference method runs, with a minimum time per run of 21 minutes, at a single load level, within plus or minus 25 percent of 100 percent of peak load. The ambient temperature must be greater than 0°F during the RATA runs.
  - 2. For each RATA run, concurrently measure the heat input to the unit using a fuel flow meter (or flow meters) and measure the electrical and thermal output from the unit.

3. Use the test data both to demonstrate compliance with the applicable NO<sub>x</sub> emission limit under §60.4320 and to provide the required reference method data for the RATA of the CEMS described under §60.4335.
  4. Compliance with the applicable emission limit in §60.4320 is achieved if the arithmetic average of all of the NO<sub>x</sub> emission rates for the RATA runs, expressed in units of ppm or lb/MWh, does not exceed the emission limit.
- b. The permittee shall conduct initial NO<sub>x</sub> emissions testing as specified in condition V.A.2.f.3 below in accordance with Site Level condition IV.14. Subsequent testing shall be conducted on an annual basis (no more than 14 calendar months) following the most recent stack test. The initial performance test for NO<sub>x</sub> can be performed using the NO<sub>x</sub> CEMs as specified in V.A.2.a above. [60.4400(a)]
  - c. The NO<sub>x</sub> performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. The permittee may perform testing at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. The permittee must conduct three separate tests run for each performance test. The minimum time per run is 20 minutes. [60.4400(b)]
    1. For a combined cycle and CHP turbine systems with supplemental heat (duct burner), you must measure the total NO<sub>x</sub> emissions after the duct burner rather than directly after the turbine. The duct burner must be in operation during the performance test.
    2. Compliance with the applicable emission limit in condition V.A.1.g (§60.4320) must be demonstrated at each tested load level. Compliance is achieved if the three-run arithmetic average NO<sub>x</sub> emission rate at each tested level meets the applicable emission limit in V.A.1.g (§60.4320)
    3. The performance evaluation of the CEM may either be conducted separately or as described in V.A.2.a (§60.4405) as part of the initial performance test of the affected unit.
    4. The ambient temperature must be greater than 0°F during the performance test.
  - d. NO<sub>x</sub> volumetric gas flowrate and O<sub>2</sub> shall be determined by the certified CEMs at the outlet stack for the period of testing and minute and hourly average data shall be included in the test report. [§2108.02, §2102.04.b.6, §2105.03]
  - e. The permittee shall conduct initial SO<sub>2</sub> emissions testing as specified in condition V.A.2.f.4 above in accordance with Site Level condition IV.14. Subsequent testing shall be conducted on an annual basis (no more than 14 calendar months) following the most recent stack test. [60.4415]
  - f. The permittee shall perform PM, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, SO<sub>2</sub>, CO and VOC emissions testing on the cogen units 1 & 2 stack as required by Article XXI §2108.02.b to demonstrate compliance with the V.A.1.e through V.A.1.n. Compliance with the emission limits in V.A.1.f through V.A.1.n shall be demonstrated based on the average of at least three (3) valid test runs. The emissions testing shall be conducted according to the following: [§2108.02.b; §2108.02.e; 60.4400; §60.4405; §60.4415]
    1. Particulate Matter shall be determined by EPA Method 5B, or equivalent as approved by the Department;
    2. PM<sub>10</sub> and PM<sub>2.5</sub> shall be determined by EPA Method 5B and 202, or an equivalent method as approved by the Department;
    3. Nitrogen oxides shall be determined by any of the EPA Methods 7 through 7E;



4. SO<sub>2</sub> shall be determined by EPA Method 6, 6A, 6B, or 6C or equivalent as approved by the Department;
  5. CO emissions shall be determined by EPA Method 10, 10A or 10B or equivalent as approved by the Department;
  6. Ammonia emissions shall be determined by EPA method 27 or equivalent as approved by the Department;
  7. VOC emissions shall be determined by EPA method 25A/18 or equivalent as approved by the Department;
  8. NO<sub>x</sub> emissions may be determined by recently certified CEMs required in section V.A.3 and condition V.A.2.a in lieu of reference test methods.
- g. The permittee shall conduct initial emission testing for PM, PM<sub>10</sub>, PM<sub>2.5</sub> CO and VOC as specified in condition V.A.2.f in accordance with Site Level Condition IV.14. Subsequent testing shall be conducted once every two years following the most recent test. The stack test frequency may be reduced to once every five years following completion of two compliant stack tests. A non-compliant stack test for a given pollutant shall reset the stack test frequency to once every two years for that pollutant. [§2108.02, §2102.04.b.6, §2103.12.h.1, §2105.03]
- h. The permittee shall monitor the following parameters for the selective catalytic reduction (SCR) system and oxidation catalyst during the stack test continuously (or a minimum of once every fifteen minutes) and provide the data as part of the test report: [§2108.02, §2102.04.b.6, §2105.03]
1. Catalytic bed inlet gas temperature;
  2. Ammonia solution injection rate;
  3. Ammonia solution concentration; and
  4. NO<sub>x</sub> emissions (ppm and lb/hr) from the CEM
- i. The permittee shall establish the oxidation catalyst inlet and outlet operating temperature from manufacturer's recommendations, which will be verified during the stack testing. [§2108.02, §2102.04.b.6, §2105.03]
- j. The permittee shall determine the following parameters during testing of the Wet ESP [§2102.04.b.6 and §2108.02]
- 1) Water flow rate as per manufacturer's recommendations;
  - 2) Secondary Voltage; and
  - 3) Current.
- k. The permittee shall establish the normal scrubber liquid flow rates based on manufacturer's recommendations which will be verified during testing of the Wet Scrubber [§2102.04.b.6 and §2108.02]
- l. All relevant operating parameters shall be recorded at appropriate intervals throughout the duration of stack test. Relevant parameters will be identified in the stack test protocol. [§2108.02, §2102.04.b.6, §2105.03]
- m. Emissions testing required in Condition V.A.2.c above shall be for filterable and condensable particulate matter. [§2108.02]

- n. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

### 3. Monitoring Requirements:

- a. The wet scrubber shall be provided with monitoring instrumentation to continuously monitor the following parameters, and the monitoring instrumentation shall be inspected for proper operation weekly. Calibration shall be conducted as required by manufacturer's instructions to ensure accurate measurements. [§2102.04.b.6, §2103.12.i]
- 1) The pressure drop across the scrubber; and
  - 2) The scrubbing liquid flow rate.
- b. The wet ESP shall be provided with monitoring instrumentation to continuously monitor the following parameters, and the monitoring instrumentation shall be inspected for proper operation weekly. Calibration shall be conducted as required by manufacturer's instructions to ensure accurate measurements. [§2102.04.b.6, §2103.12.i]
- 1) Water flow rate;
  - 2) Voltage; and
  - 3) Current.
- c. The permittee shall operate and maintain continuous nitrogen oxides monitoring systems and other monitoring systems to convert data to required reporting units in compliance with 25 PA Code §§139.101 - 139.111 relating to requirements for continuous in-stack monitoring for stationary sources. [§2108.03.b.2; §2103.12.a.2.D; §2103.12.i;]
- d. The permittee shall monitor the following parameters for the selective catalytic reduction (SCR) system: [§2103.12.i]
1. catalytic bed inlet gas temperature,
  2. ammonia solution injection rate, and
  3. ammonia solution concentration.
- e. The permittee shall operate and maintain the SCR equipment and monitoring instrumentation in accordance with the manufacturer's specifications and good air pollution control practice. [§2105.03, §2102.04.b.6]
- f. The permittee shall continuously monitor the oxygen content of the flue gas of the cogeneration units to ensure the units are being operated and maintained properly and are operating under the conditions demonstrated during the most recent compliance test. [§2103.12.i; §2108.03]
- g. If the permittee is using water or steam injection to control NO<sub>x</sub> emissions, the permittee shall install, calibrate, maintain and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water or steam to fuel being fired in the turbine when burning a fuel that requires water or steam injection for compliance. [§60.4335(a); §2103.12.a.2.D; §2103.12.i]
- h. Alternative to condition V.A.3.g above, the permittee may use continuous emission monitoring,

as follows: [§60.4335(b); §2103.12.a.2.D; §2103.12.i;]

1. Install, certify, maintain, and operate a continuous emission monitoring system (CEMS) consisting of a NO<sub>x</sub> monitor and a diluent gas (oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>)) monitor, to determine the hourly NO<sub>x</sub> emission rate in parts per million (ppm) or pounds per million British thermal units (lb/MMBtu); and
  2. For units complying with the output-based standard, install, calibrate, maintain, and operate a fuel flow meter (or flow meters) to continuously measure the heat input to the affected unit; and
  3. For units complying with the output-based standard, install, calibrate, maintain, and operate a watt meter (or meters) to continuously measure the gross electrical output of the unit in megawatt-hours; and
  4. For combined heat and power units complying with the output-based standard, install, calibrate, maintain, and operate meters for useful recovered energy flow rate, temperature, and pressure, to continuously measure the total thermal energy output in British thermal units per hour (Btu/h).
- i. Each NO<sub>x</sub> diluent CEMS must be installed and certified according to Performance Specification 2 (PS 2) in appendix B of 40 CFR Part 60, except the 7-day calibration drift is based on unit operating days, not calendar days. With state approval, Procedure 1 in appendix F of 40 CFR Part 60 is not required. Alternatively, a NO<sub>x</sub> diluent CEMS that is installed and certified according to appendix A of 40 CFR Part 75 is acceptable for use under this subpart. The relative accuracy test audit (RATA) of the CEMS shall be performed on a lb/MMBtu basis. [§60.4345a; §2108.03.b.2]
  - j. As specified in §60.13(e)(2), during each full unit operating hour, both the NO<sub>x</sub> monitor and the diluent monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained with each monitor for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required for each monitor to validate the NO<sub>x</sub> emission rate for the hour. [§60.4345b]
  - k. Each fuel flowmeter shall be installed, calibrated, maintained, and operated according to the manufacturer's instructions. Alternatively, with state approval, fuel flowmeters that meet the installation, certification, and quality assurance requirements of appendix D to 40 CFR Part 75 are acceptable for use under 40 CFR Part 60, subpart KKKK. [§60.4345c]
  - l. Each watt meter, steam flow meter, and each pressure or temperature measurement device shall be installed, calibrated, maintained, and operated according to manufacturer's instructions. [§60.4345d]
  - m. The owner or operator shall develop and keep on-site a quality assurance (QA) plan for all of the continuous monitoring equipment described in conditions V.A.3.i, V.A.3.k and V.A.3.l. For the CEMS and fuel flow meters, the owner or operator may, with state approval, satisfy the requirements of this paragraph by implementing the QA program and plan described in section 1 of appendix B to part 40 CFR Part 75. [§60.4345e]
  - n. For purposes of identifying excess emissions: [§60.4350]

1. All CEMS data must be reduced to hourly averages as specified in §60.13(h). [§60.4350(a)]
2. For each unit operating hour in which a valid hourly average, as described in §60.4345(b), is obtained for both NO<sub>x</sub> and diluent monitors, the data acquisition and handling system must calculate and record the hourly NO<sub>x</sub> emission rate in units of ppm or lb/MMBtu, using the appropriate equation from method 19 in appendix A of 40 CFR Part 60. For any hour in which the hourly average O<sub>2</sub> concentration exceeds 19.0 percent O<sub>2</sub> (or the hourly average CO<sub>2</sub> concentration is less than 1.0 percent CO<sub>2</sub>), a diluent cap value of 19.0 percent O<sub>2</sub> or 1.0 percent CO<sub>2</sub> (as applicable) may be used in the emission calculations. [§60.4350(b)]
3. Correction of measured NO<sub>x</sub> concentrations to 15 percent O<sub>2</sub> is not allowed. [§60.4350(c)]
4. If the permittee has installed and certified a NO<sub>x</sub> diluent CEMS to meet the requirements of 40 CFR Part 75, states can approve that only quality assured data from the CEMS shall be used to identify excess emissions under this subpart. Periods where the missing data substitution procedures in subpart D of 40 CFR Part 75 are applied are to be reported as monitor downtime in the excess emissions and monitoring performance report required under §60.7(c). [§60.4350(d)]
5. All required fuel flow rate, steam flow rate, temperature, pressure, and megawatt data must be reduced to hourly averages. [§60.4350(e)]
6. Calculate the hourly average NO<sub>x</sub> emission rates, in units of the emission standards under §60.4320, using either ppm for units complying with the concentration limit or the following equation for units complying with the output-based standard: [§60.4350(f)]
  - A. For combined-cycle and combined heat and power complying with the output-based standard, use Equation 1 of this subpart, except that the gross energy output is calculated as the sum of the total electrical and mechanical energy generated by the combustion turbine, the additional electrical or mechanical energy (if any) generated by the steam turbine following the heat recovery steam generator, and 100 percent of the total useful thermal energy output that is not used to generate additional electricity or mechanical output, expressed in equivalent MW, as in the following equations:

$$P = (P_e)t + (P_e)c + P_s + P_o$$

**Where:**

P = gross energy output of the stationary combustion turbine system in MW.

(P<sub>e</sub>)<sub>t</sub> = electrical or mechanical energy output of the combustion turbine in MW,

(P<sub>e</sub>)<sub>c</sub> = electrical or mechanical energy output (if any) of the steam turbine in MW, and

$$P_s = \frac{Q \cdot H}{3.413 \times 10^6 \text{ Btu/MWh}}$$

**Where:**

P<sub>s</sub> = useful thermal energy of the steam, measured relative to ISO conditions, not used to generate additional electric or mechanical output, in MW,

Q = measured steam flow rate in lb/h,

H = enthalpy of the steam at measured temperature and pressure relative to ISO conditions, in Btu/lb, and 3.413 × 10<sup>6</sup> = conversion from Btu/h to MW.

Po = other useful heat recovery, measured relative to ISO conditions, not used for steam generation or performance enhancement of the combustion turbine.

7. For combined cycle and combined heat and power units with heat recovery, use the calculated hourly average emission rates from condition V.A.3.n.6 to assess excess emissions on a 30-unit operating day rolling average basis, as described in §60.4380(b)(1). [§60.4350(h)]
- o. The steam or water to fuel ratio or other parameters that are continuously monitored as described in conditions V.A.3.g and V.A.3.h must be monitored during the performance test required under §60.8, to establish acceptable values and ranges. The permittee may supplement the performance test data with engineering analyses, design specifications, manufacturer's recommendations and other relevant information to define the acceptable parametric ranges more precisely. The permittee must develop and keep on-site a parameter monitoring plan which explains the procedures used to document proper operation of the NO<sub>x</sub> emission controls. The plan must: [§60.4355]
  1. Include the indicators to be monitored and show there is a significant relationship to emissions and proper operation of the NO<sub>x</sub> emission controls,
  2. Pick ranges (or designated conditions) of the indicators, or describe the process by which such range (or designated condition) will be established,
  3. Explain the process used to make certain that that the data obtained are representative of the emissions or parameters being monitored (such as detector location, installation specification if applicable),
  4. Describe quality assurance and control practices that are adequate to ensure the continuing validity of the data,
  5. Describe the frequency of monitoring and the data collection procedures used (e.g., a computerized data acquisition over a number of discrete data points with the average (or maximum value) being used for purposes of determining whether an exceedance has occurred), and
  6. Submit justification for the proposed elements of the monitoring. If a proposed performance specification differs from manufacturer recommendation, permittee must explain the reasons for the differences. Permittee must submit the data supporting the justification but may refer to generally available sources of information used to support the justification. Permittee may rely on engineering assessments and other data, provided factors are demonstrated which assure compliance or explain why performance testing is unnecessary to establish indicator ranges. When establishing indicator ranges, the permittee may choose to simplify the process by treating the parameters as if they were correlated. Using this assumption, testing can be divided into two cases:
    - i. All indicators are significant only on one end of range (e.g., for a thermal incinerator controlling volatile organic compounds (VOC) it is only important to insure a minimum temperature, not a maximum). In this case, the study may be conducted so that each parameter is at the significant limit of its range while conducting emissions testing. If the emissions tests show that the source is in compliance at the significant limit of each parameter, then as long as each parameter is within its limit, it is presumed to be in compliance.
    - ii. Some or all indicators are significant on both ends of the range. In this case, the study may be conducted so that each parameter that is significant at both ends of its range

assumes its extreme values in all possible combinations of the extreme values (either single or double) of all of the other parameters. For example, if there were only two parameters, A and B, and A had a range of values while B had only a minimum value, the combinations would be A high with B minimum and A low with B minimum. If both A and B had a range, the combinations would be A high and B high, A low and B low, A high and B low, A low and B high. For the case of four parameters all having a range, there are 16 possible combinations.

- p. The permittee must monitor the total sulfur content of the fuel being fired in the turbines, except as provided in condition V.A.3.q (§60.4365). The sulfur content of the fuel must be determined using total sulfur methods described in condition V.A.2.f (§60.4415). Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than half the applicable limit, ASTM D4084, D4810, D5504, or D6228, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see §60.17), which measure the major sulfur compounds, may be used. [§60.4360]
- q. The permittee may elect not to monitor the total sulfur content of the fuel combusted in the turbine as required in condition V.A.3.p above, if the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input for units located in continental areas. The permittee must use one of the following sources of information to make the required demonstration: [§60.4365]
1. The total sulfur content for natural gas use in continental areas is 20 grains of sulfur or less per 100 standard cubic feet, and has potential sulfur emissions of less than 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input for continental areas; [§60.4365(a)] or
  2. Representative fuel sampling data which show that the sulfur content of the fuel does not exceed 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input for continental areas. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to 40 CFR Part 75 is required. [§60.4365(b)]
- r. The frequency of determining the sulfur content of the fuel must be as follows: [§60.4370]
1. *Gaseous fuel:* If you elect not to demonstrate sulfur content using options in condition V.A.3.q, and the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel must be determined and recorded once per unit operating day. [§60.4370(b)]
  2. *Custom schedules:* Notwithstanding the requirements of condition V.A.3.r.1 above, operators or fuel vendors may develop custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply. Except as provided in conditions V.A.3.r.2.A and V.A.3.r.2.B below, custom schedules shall be substantiated with data and shall be approved by the Administrator before they can be used to comply with the standard in condition V.A.1.j. [§60.4370(c)]
- A. The two custom sulfur monitoring schedules set forth in conditions V.A.3.r.2.A.i) through V.A.3.r.2.A.iv) and in condition V.A.3.r.2.B below are acceptable, without prior Administrative approval:

- i) The permittee shall obtain daily total sulfur content measurements for 30 consecutive unit operating days, using the applicable methods specified in this subpart. Based on the results of the 30 daily samples, the required frequency for subsequent monitoring of the fuel's total sulfur content shall be as specified in conditions V.A.3.r.2.A.i), V.A.3.r.2.A.ii), V.A.3.r.2.A.iii) or V.A.3.r.2.A.iv), as applicable. [§60.4370(c)]
  - ii) If none of the 30 daily measurements of the fuel's total sulfur content exceeds half the applicable standard, subsequent sulfur content monitoring may be performed at 12-month intervals. If any of the samples taken at 12-month intervals has a total sulfur content greater than half but less than the applicable limit, follow the procedures in condition V.A.3.r.2.A.iii) below. If any measurement exceeds the applicable limit, follow the procedures in condition V.A.3.r.2.A.iv).
  - iii) If at least one of the 30 daily measurements of the fuel's total sulfur content is greater than half but less than the applicable limit, but none exceeds the applicable limit, then:
    - A. Collect and analyze a sample every 30 days for 3 months. If any sulfur content measurement exceeds the applicable limit, follow the procedures in condition V.A.3.r.2.A.iv). Otherwise, follow the procedures in condition V.A.3.r.2.A.iii)B below.
    - B. Begin monitoring at 6-month intervals for 12 months. If any sulfur content measurement exceeds the applicable limit, follow the procedures in paragraph (c)(1)(iv) of this section. Otherwise, follow the procedures in condition V.A.3.r.2.A.iii)C below.
    - C. Begin monitoring at 12-month intervals. If any sulfur content measurement exceeds the applicable limit, follow the procedures in condition V.A.3.r.2.A.iv) below. Otherwise, continue to monitor at this frequency.
  - iv) If a sulfur content measurement exceeds the applicable limit, immediately begin daily monitoring according to condition V.A.3.r.2.A.i) above. Daily monitoring shall continue until 30 consecutive daily samples, each having a sulfur content no greater than the applicable limit, are obtained. At that point, the applicable procedures of conditions V.A.3.r.2.A.ii) or V.A.3.r.2.A.iii) above shall be followed.
- B. The permittee may use the data collected from the 720-hour sulfur sampling demonstration described in section 2.3.6 of appendix D to part 75 of this chapter to determine a custom sulfur sampling schedule, as follows: [§60.4370(c)(2)]
- i) If the maximum fuel sulfur content obtained from the 720 hourly samples does not exceed 20 grains/100 scf, no additional monitoring of the sulfur content of the gas is required. [§60.4370(c)(2)(i)]
  - ii) If the maximum fuel sulfur content obtained from any of the 720 hourly samples exceeds 20 grains/100 scf, but none of the sulfur content values (when converted to weight percent sulfur) exceeds half the applicable limit, then the minimum required sampling frequency shall be one sample at 12-month intervals. [§60.4370(c)(2)(ii)]
  - iii) If any sample result exceeds half the applicable limit, but none exceeds the applicable limit, follow the provisions of condition V.A.3.r.2.A.iii) above. [§60.4370(c)(2)(iii)]

- iv) If the sulfur content of any of the 720 hourly samples exceeds the applicable limit, follow the provisions of condition V.A.3.r.2.A.iv) above. [§60.4370(c)(2)(iv)]

#### 4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data for cogeneration units: [§2102.04.b.6, §2103.12.j; §2013.12.a.2.B; §2103.12.a.2.D]
1. Type and amount of fuel used (MMscf of natural gas/day);
  2. Steam load (lbs/hr, lbs/day; average daily steam load for each month);
  3. Cold starts (date, time and duration of each occurrence);
  4. Total operating hours, (hours/day, monthly and 12-month);
  5. Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment; and
  6. Stack test protocols and reports.
- b. The permittee shall maintain a copy of the manufacturer's specifications for the SCR air pollution control equipment on-site. [§2102.04.b.6, §2103.12.j]
- c. The permittee shall maintain records of all air pollution control system performance evaluations and all records of calibration checks, adjustments, and maintenance performed on all equipment which is subject to this permit. [§2102.04.b.6, §2103.12; §2103.05]
- d. The permittee shall keep a record of the date, time, and cause of the malfunction of all air pollution control systems, and the action taken to correct the malfunction. [§2108.01.b & §2108.01.c]
- e. The permittee shall record at a minimum the following SCR control system information: [§2102.04.b.6, §2103.12.j]
1. Catalytic bed inlet temperature, ammonia solution injection rate, and ammonia solution concentration (once each day).
  2. All instances or episodes when the catalyst was bypassed due to boiler upset conditions and low boiler load conditions when the boiler exhaust temperature is outside of the operating range of the SCR catalyst (each occurrence).
- f. The permittee shall maintain onsite a copy of the manufacturer's specifications for all CEMs that are required by this permit. [§2102.04.b.6, §2103.12.j]
- g. The permittee shall record start-up and shutdown of each combustion turbine including date, time and duration of each event [§2102.04.b.6, §2103.12.j]
- h. The permittee shall retain records of all required monitoring data and support information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or digital data recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [§2103.12.k; §2102.04.b.6, §2103.12.j]
- i. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2102.04.b.6, §2103.12.j]



**5. Reporting Requirements:**

- a. The permittee shall submit semi-annual reports to the Department in accordance with General Condition III.15. [§2103.12.k; §2103.12.a.2.B; §2103.12.a.2.D]
- b. The permittee shall report non-compliance information required to be recorded by V.A.4.i above to the Department in accordance with General Condition III.15. The reports shall contain all required information for the time period of the report: [§2103.12.k.1; §2103.12.a.2.B; §2103.12.a.2.D]
- c. The permittee shall report all cold starts of cogeneration units 1 and 2 to the Department in accordance with Site Level Condition IV.9. [§2108.01.d]
- d. The permittee shall submit the results of the continuous nitrogen oxides monitoring systems on a regular schedule and in a format acceptable to the Department and in compliance with the USEPA Clean Air Markets Division Part 75 requirements. [§2108.03.b.3]
- e. All reports must be postmarked by the 30th day following the end of each 6-month period. [§60.4395; §2103.12.a.2.B; §2103.12.a.2.D]
- f. The permittee must submit reports of excess NO<sub>x</sub> emissions and monitor downtime, in accordance with §60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown, and malfunction. [§60.4375(a)]
- g. For the purpose of reports required under §60.7(c), periods of excess emissions and monitor downtime that must be reported are defined as follows: [§60.4380; §2103.12.a.2.B; §2103.12.a.2.D]
  1. For turbine using water or steam to fuel ratio monitoring:
    - A. An excess emission is any unit operating hour for which the 4-hour rolling average steam or water to fuel ratio, as measured by the continuous monitoring system, falls below the acceptable steam or water to fuel ratio needed to demonstrate compliance with V.A.1.g and V.A.1.h, as established during the performance test required in §60.8. Any unit operating hour in which no water or steam is injected into the turbine when a fuel is being burned that requires water or steam injection for NO<sub>x</sub> control will also be considered an excess emission.
    - B. A period of monitor downtime is any unit operating hour in which water or steam is injected into the turbine, but the essential parametric data needed to determine the steam or water to fuel ratio are unavailable or invalid.
    - C. Each report must include the average steam or water to fuel ratio, average fuel consumption, and the combustion turbine load during each excess emission.
  2. For turbine using continuous emission monitoring, as described in section V.A.3 above: [§40.4380(b)]
    - A. An excess emission is any unit operating period in which the 4-hour or 30-day rolling average NO<sub>x</sub> emission rate exceeds the applicable emission limit in §60.4320. For the purposes of this subpart, a “4-hour rolling average NO<sub>x</sub> emission rate” is the arithmetic average of the average NO<sub>x</sub> emission rate in ppm or ng/J (lb/MWh) measured by the

continuous emission monitoring equipment for a given hour and the three-unit operating hour average NO<sub>x</sub> emission rates immediately preceding that unit operating hour. Calculate the rolling average if a valid NO<sub>x</sub> emission rate is obtained for at least 3 of the 4 hours. For the purposes of this subpart, a “30-day rolling average NO<sub>x</sub> emission rate” is the arithmetic average of all hourly NO<sub>x</sub> emission data in ppm or ng/J (lb/MWh) measured by the continuous emission monitoring equipment for a given day and the twenty-nine-unit operating days immediately preceding that unit operating day. A new 30-day average is calculated each unit operating day as the average of all hourly NO<sub>x</sub> emissions rates for the preceding 30-unit operating days if a valid NO<sub>x</sub> emission rate is obtained for at least 75 percent of all operating hours.

- B. 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<sub>x</sub> concentration, CO<sub>2</sub> or O<sub>2</sub> concentration, fuel flow rate, steam flow rate, steam temperature, steam pressure, or megawatts. The steam flow rate, steam temperature, and steam pressure are only required if you will use this information for compliance purposes.
  - C. For operating periods during which multiple emissions standards apply, the applicable standard is the average of the applicable standards during each hour. For hours with multiple emissions standards, the applicable limit for that hour is determined based on the condition that corresponded to the highest emissions standard.
3. For turbine required to monitor combustion parameters or parameters that document proper operation of the NO<sub>x</sub> emission controls: [§60.4380(c)]
- A. An excess emission is a 4-hour rolling unit operating hour average in which any monitored parameter does not achieve the target value or is outside the acceptable range defined in the parameter monitoring plan for the unit.
  - B. A period of monitor downtime is a unit operating hour in which any of the required parametric data are either not recorded or are invalid.
- h. If the permittee chooses the option to monitor the sulfur content of the fuel, excess emissions and monitoring downtime are defined as follows: [§60.4385]
- 1. For samples of gaseous fuel obtained using daily sampling, flow proportional sampling, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the combustion turbine exceeds the applicable limit and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit. [§60.4385(a)]
  - 2. 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 and hour of a required sample, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample. [§60.4385(c)]
- i. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k]

**6. Work Practice Standard:**

- a. The permittee shall operate and maintain stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction. except as provided elsewhere. [§2105.03; §60.4333(a)]

**7. Additional Requirements:**

The permittee shall notify the Department in writing ten (10) days prior to start-up of the cogeneration plant. Notification may be sent via email to the Department at [aqreports@alleghenycounty.us](mailto:aqreports@alleghenycounty.us). Department reserves the right to inspect and approve the equipment before it is placed into normal operation. [§2102.04.b.6]

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**B. Process P003:            **Emergency Fire Pump****

**Process Description:** Fire Pump Engine  
**Capacity:** 55 kW  
**Raw Materials:** Diesel fuel; <0.0015% (15ppm) sulfur  
**Control Device:** None

**1. Restrictions:**

- a. The permittee shall use only diesel fuel that meets the following requirements in the emergency fire pump engine: [§§60.4207(b); §80.510(b); §2103.12.a.2.B; §2102.04.b.6]
  - 1. The maximum sulfur content shall not exceed 15 ppm (0.0015%)
  - 2. The Cetane index or aromatic content shall not exceed the following:
    - A. A minimum cetane index of 40; or
    - B. A maximum aromatic content of 35 volume percent.
- b. The permittee shall operate the emergency fire pump engine according to the requirements below: [§2102.04.b.6; §2105.03; §60.4211(f)]
  - 1. The engine shall not operate for more than 100 hours for non-emergency purposes, including operation for maintenance checks and readiness testing, in any 12-month period. [§2102.04.b.6; §2105.03; §60.4211(f)(2)]
  - 2. There is no time limit on the use of emergency stationary ICE in emergency situations. [§60.4211(f)(1)]
- c. Emissions from the emergency fire pump engine shall not exceed the following at any time: [§2102.04.b.6; §2103.12.a.2.D]

**TABLE V-B-1: Fire Pump Engine Emission Limitations**

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter **	0.035	0.002
Nitrogen Oxides (NO <sub>x</sub> )	0.51	0.03
Sulfur Oxides (SO <sub>x</sub> )	0.17	0.01
Carbon Monoxide (CO)	0.15	0.01
Volatile Organic Compounds (VOCs)	0.05	0.002

\*A year is defined as any consecutive 12-month period.

\*\*Emissions is for both filterable and condensable. filtrable is based on manufacture's data and condensable is AP-42, Table 3.4-2

**2. Testing Requirements:**

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

**3. Monitoring Requirements:**

- a. The permittee shall install a non-resettable hour meter prior to startup of the emergency generator. [§60.4209(a); §2102.04.b.6; §2103.12.a.2.D;]
- b. Compliance with the fuel oil sulfur limitations in condition V.B.1.a above shall be determined based on a certification obtained from the fuel supplier meeting the requirements of condition V.B.4.b below. [§2102.04.b.6; §2103.12.i]

**4. Record Keeping Requirements:**

- a. The permittee shall keep and maintain the following data for the emergency fire engine: [§2102.04.b.6; §2103.12.j; §60.4214(b)]
  - 1) Cold starts (date, time and duration of each occurrence);
  - 2) Total operating hours (monthly and 12-month) as recorded by the non-resettable hour meters required under condition V.B.3.a with reason for operation during that time;
  - 3) Monthly fuel usage for the fire engine; and
  - 4) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment.
- b. Records of diesel fuel certifications from fuel suppliers shall be maintained per shipment. Certifications shall include the name of the supplier and a statement from the supplier that the fuel complies with ASTM D975 "Standard Specifications for Diesel Fuel Oils". [§2103.12.j]
- c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.j]
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

**5. Reporting Requirements:**

- a. The permittee shall report the following information to the Department semi-annually in accordance with General Condition III.15. The reports shall contain all required information for the time period of the report: [§2103.12.k; §2103.12.a.2.D]
  1. Monthly and 12-month data required to be recorded by Condition V.B.4.a above;
  2. Non-compliance information required to be recorded by Condition V.B.4.c above; and
  3. Fuel oil certifications required by condition V.B.4.b above and a statement from the permittee that the record of fuel supplier certifications represents all the fuel oil used during the reporting period.
- b. Until terminated by written notice from the Department, the requirement for the permittee to

report cold starts 24 hours in advance in accordance with Site Level Condition IV.9 and §2108.01.d is waived and the permittee may report all cold starts in accordance with Condition V.B.5.a above. [§2103.12.k; §2103.12.a.2.D]

- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k]

**6. Work Practice Standard:**

The engine shall be properly operated and maintained according to manufacturer's specifications. The manufacturer's operation and maintenance manuals shall be kept on site at all times. [§2102.04.b.6; §2105.03]

**7. Additional Requirements:**

None except as provided elsewhere.

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**C. Process P004: Dew Point Heaters**

**Process Description:** Two (2) Dew Point Heaters  
**Capacity:** 3 MMBtu/hr each  
**Raw Materials:** Natural Gas  
**Control Device:** Low NO<sub>x</sub> Burner

**1. Restrictions:**

- a. Only natural gas shall be combusted in the dew point heaters. [§2102.04.b.6; §2103.12.a.2.B; §2104.03.a.2.A]
- b. Natural gas usage in each heater shall not exceed a total of 3 MMBtu/hr and 26,280 MMBtu in any 12 consecutive months each. [§2102.04.b.6; §2103.12.a.2.B; §2104.03.a.2.A]
- c. Emissions from each heater shall not exceed the limitations in Table V-C-1 below at any time: [§2102.04.b.6; §2103.12.a.2.D; §2104.02.a.1; §2104.03.a.2.A]

**TABLE V-C-1: Dew Point Heaters Emission Limitations**

POLLUTANT**	HOURLY EMISSION LIMIT Per Heater (lb/hr)	ANNUAL EMISSION LIMIT Per Heater (tons/year)*
Particulate Matter	0.01	0.06
Nitrogen Oxides (NO <sub>x</sub> )	0.10	0.43
Sulfur Oxides (SO <sub>x</sub> )	0.002	0.01
Carbon Monoxide (CO)	0.11	0.49
Volatile Organic Compounds (VOCs)	0.01	0.04

\*A year is defined as any consecutive 12-month period.

\*\*Emissions are based on manufacture's data

**2. Testing Requirements:**

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

**3. Monitoring Requirements:**

None except as provided elsewhere.

**4. Record Keeping Requirements:**

- a. The permittee shall keep and maintain the following data for the dew point heaters: [§2103.12.a.2.B; §2103.12.j]

- 1) Record of fuel consumption (monthly and 12-month); and
- 2) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment.

- b. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.j]
- c. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j]

**5. Reporting Requirements:**

- a. The permittee shall report non-compliance information required to be recorded by the Department in V.C.4.b accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [§2103.12.k.1]
- b. Reporting instances of non-compliance in accordance with condition V.C.5.a above does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k.1]

**6. Work Practice Standards:**

- a. The permittee shall conduct a tune-up of the dew point heaters at least once every 5 years from the date of the last tune-up. [§63.7500(a)(1), Subpart DDDDD Table 3, Item #1; §63.7540(a)(12)]
- b. The permittee shall not, at any time, operate the dew point heaters unless the subject heaters are properly operated and maintained according to good engineering and air pollution control practices. [§2105.03]



**D. Process B009: Auxiliary Boiler (Boiler No. 9)**

**Process Description:** Package Boiler  
**Facility ID:** B009  
**Capacity:** 140 MMBtu/hr  
**Raw Materials:** Natural Gas  
**Control Device:** Low NO<sub>x</sub> burners with Flue Gas Recirculation (FGR)

**1. Restrictions:**

- a. The permittee shall not operate or, allow to be operated the auxiliary boiler unless it is properly operated and maintained according to the following specifications, at all times: [§2103.12.a.2.D; §2103.12.f.1; §2102.04.b.6]
  - 1. The boiler burner shall be a low-NO<sub>x</sub> burner for natural gas with FGR and a maximum NO<sub>x</sub> emission of 0.011 lbs/MMBtu.
  - 2. Boiler No. 9 shall combust only utility-supplied natural gas.
- b. The annual capacity factor on Boiler No. 9 shall not exceed 10%. Annual capacity factor means the ratio between the actual heat input from the fuels burned during a calendar year and the potential heat input had the equipment operated for 8,760 hours during a year at the maximum steady state design heat input capacity [§2105.06.d, §63.7575]
- c. Emissions of carbon monoxide shall not exceed 0.037 lb/MMBtu. [§2103.12.a.2.D; §2102.04.b.6]
- d. Natural gas usage in Boiler No.9 shall not exceed the maximum potential usage of 140 MMBtu/hr and 122,640 MMBtu /yr. [§2103.12.a.2.D; §2102.04.b.6; §2103.12.h.1]
- e. Emissions from Boiler No. 9 shall not exceed the limitations in Table V-D-1 below at any time: [§2102.04.b.6; §2103.12.a.2.D; §2104.02.a.1; §2104.03.a.2.A]

**TABLE V-D-1: Auxiliary Boiler Emission Limitations**

POLLUTANT**	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter (filterable)	0.30	0.13
PM <sub>10</sub> /PM <sub>2.5</sub>	1.18	0.52
Nitrogen Oxides (NO <sub>x</sub> )	1.54	0.67
Sulfur Oxides (SO <sub>x</sub> )	0.09	0.04
Carbon Monoxide (CO)	5.18	2.27
Volatile Organic Compounds (VOCs)	0.70	0.31

\*A year is defined as any consecutive 12-month period.

\*\*NO<sub>x</sub> and CO emissions are based on manufacture's data

**2. Testing Requirements:**

- a. The permittee shall perform nitrogen oxides emissions testing on the Auxiliary Boiler at least once every five years in order to demonstrate compliance with the emission limitations of this permit. Such testing shall be conducted in accordance with U.S. EPA test method 7E or an alternative method approved by the Department and Article XXI §2108.02. [§2103.12.h.1; §2108.02.b, §2108.02.e; 2102.04.b.6]
- b. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.14 and §2108.02. [§2103.12.h.1]

**3. Monitoring Requirements:**

The permittee shall operate and maintain a fuel flow meter to monitor the amount of natural gas combusted in the Auxiliary Boiler. [§2103.12.i]

**4. Record Keeping Requirements:**

- a. The permittee shall keep and maintain the following data for the boiler: [§2103.12.j]
  1. Records of the amount of natural gas combusted (daily, monthly and 12 months).
  2. Cold starts (date, time and duration of each occurrence);
  3. Total operating hours (hours/day, monthly and 12-month);
  4. Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment.
- b. The permittee shall record and maintain records of the amounts of natural gas combusted during each day and calculate the annual capacity factor for natural gas, for the reporting period. The annual capacity factor shall be determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. [§63.7555(a)(3)]
- c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.j]
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

**5. Reporting Requirements:**

- a. The permittee shall report the following information to the Department semi-annually in accordance with General Condition III.15. The reports shall contain all required information for the time period of the report. The reports shall be postmarked by the 30th day following the end of the reporting period. [§2103.12.k; §2103.12.a.2.D]
  1. Monthly and 12-month data required to be recorded by Condition V.D.4.a above;
  2. Cold start information; and
  3. Non-compliance information required to be recorded by Condition V.D.4.c above.
- b. Until terminated by written notice from the Department, the requirement for the permittee to

report cold starts 24 hours in advance in accordance with Site Level Condition IV.9 and §2108.01.d is waived and the permittee may report all cold starts in accordance with Condition V.D.5.a above. [§2103.12.k; §2103.12.a.2.D]

- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k]

## 6. Work Practice Standards:

- a. The permittee shall conduct a tune-up of the limited use auxiliary boiler at least once every 5 years as specified in §63.7540. [§63.7500(c), Subpart 5D Table 3, Item #1; §63.7540(a)(12)]
- b. The permittee must conduct a tune-up of the boiler to demonstrate continuous compliance as specified in conditions V.D.6.b.1 through V.D.6.b.6 [§63.7540(a)(10)]
1. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment
  2. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
  3. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection;
  4. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO<sub>x</sub> requirement to which the unit is subject;
  5. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and
  6. Maintain on-site and submit, if requested by the Administrator, a report containing the information in conditions V.D.6.b.6.A through V.D.6.b.6.C
    - A. The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
    - B. A description of any corrective actions taken as a part of the tune-up; and
    - C. The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that

period. Units sharing a fuel meter may estimate the fuel used by each unit.

- c. The permittee shall not, at any time, operate the auxiliary boiler unless the subject boiler is properly operated and maintained according to good engineering and air pollution control practices. [§2105.03]

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**E. Boiler R2: Existing Boiler R2**

**Process Description:** Steam production  
**Facility ID:** B006  
**Max. Design Rate:** 229 MMBtu/hr (Heat Input)  
**Capacity:** 229 MMBtu/hr (Heat Input)  
**Raw Materials:** Desulfurized coke oven gas  
**Control Device:** NA

**1. Restrictions:**

- a. Only coke oven gas shall be combusted in Boiler R2. [§2103.12.a.2]
- b. Coke oven gas usage in Boiler R2 shall not exceed the maximum potential usage of 229 MMBtu/hr and 274,800 MMBtu/yr. [§2103.12.a.2.D; §2102.04.b.6; §2103.12.h.1]
- c. Emissions from Boiler R2 shall not exceed the limitations in Table V-E-1 below at any time: [§2102.04.b.6; §2103.12.a.2.D; §2104.02.a.1; §2104.03.a.2.A]

**TABLE V-E-1: Boiler R2 Emission Limitations**

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	1.83	1.10
PM <sub>10</sub> (total)	3.78	2.27
PM <sub>2.5</sub> (total)	3.3	1.97
Nitrogen Oxides (NO <sub>x</sub> )	47.35	28.41
Sulfur Oxides (SO <sub>x</sub> )	33.68	20.21
Carbon Monoxide (CO)	45.12	27.07
Volatile Organic Compounds (VOCs)	0.03	0.02

\*A year is defined as any consecutive 12-month period.

**2. Testing Requirements:**

- a. The permittee shall perform emissions testing on Boiler R2 at least once every five years for NO<sub>x</sub>, SO<sub>2</sub> and CO in order to determine compliance with the emission limitations specified in condition V.E.1.c above. Such testing shall be in accordance with the following: [§2103.12.h.1; §2108.02.b, §2108.02.e; 2102.04.b.6]
  - 1. Nitrogen oxides shall be determined by any of the EPA Methods 7 through 7E;
  - 2. SO<sub>2</sub> shall be determined by any EPA Methods 6, 6A, 6B, or 6C or equivalent as approved by the Department;
  - 3. CO shall be determined by any EPA Method 10 or equivalent as approved by the Department
- b. The Department reserves the right to require additional emissions testing sufficient to assure

compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.14 above and Article XXI §2108.02. (§2103.12.h.1)

### 3. Monitoring Requirements:

The volume of coke oven gas combusted in Boiler R2 and the H<sub>2</sub>S content of the coke oven gas shall be monitored and recorded on a daily basis (midnight to midnight). [§2103.12.i]

### 4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data for the boiler: [§2103.12.j]
  1. Records of the amount of coke oven gas combusted and the H<sub>2</sub>S content of the coke oven gas (daily, monthly and 12 months)
  2. Cold starts (date, time and duration of each occurrence);
  3. Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment.
- b. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.j]
- c. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

### 5. Reporting Requirements:

- a. The permittee shall report the following information to the Department semi-annually in accordance with General Condition III.15. The reports shall contain all required information for the time period of the report. The reports shall be postmarked by the 30th day following the end of the reporting period. [§2103.12.k; §2103.12.a.2.D]
  1. Monthly and 12-month data required to be recorded by Condition V.E.4.a above;
  2. Cold start information; and
  3. Non-compliance information required to be recorded by Condition V.E.4.b above
- b. Until terminated by written notice from the Department, the requirement for the permittee to report cold starts 24 hours in advance in accordance with Site Level Condition IV.9 and §2108.01.d is waived and the permittee may report all cold starts in accordance with Condition V.E.5.a above. [§2103.12.k; §2103.12.a.2.D]
- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k]

### 6. Work Practice Standards:

The permittee shall not, at any time, operate the boiler R2 unless the subject boiler is properly operated and maintained according to good engineering and air pollution control practices at all times. [§2105.03; §2104.02.a.4.D]

**F. Boilers T1 and T2: Existing Boilers T1 & T2**

**Process Description:** Steam production  
**Facility ID:** B007 & B008  
**Max. Design Rate:** 156 MMBtu/hr, each (Heat Input)  
**Capacity:** 156 MMBtu/hr, each (Heat Input)  
**Raw Materials:** Desulfurized coke oven gas and natural gas  
**Control Device:** NA

**1. Restrictions:**

- a. Only coke oven gas and natural gas shall be combusted in Boilers T1 and T2. [§2103.12.a.2]
- b. Coke oven gas usage in Boilers T1 and T2 shall not exceed the maximum potential usage of 156 MMBtu/hr and 240,240 MMBtu/yr each. [§2103.12.a.2.D; §2102.04.b.6; §2103.12.h.1]
- c. Natural gas usage in Boilers T1 and T2 shall not exceed the maximum potential usage of 156 MMBtu/hr and 102,960 MMBtu/yr each. [§2103.12.a.2.D; §2102.04.b.6; §2103.12.h.1]
- d. Emissions from Boilers T1 and T2 shall not exceed the limitations in Table V-F-1 below at any time: [§2102.04.b.6; §2103.12.a.2.D; §2104.02.a.1; §2104.03.a.2.A]

**TABLE V-F-1: Boiler T1 & T2 Emission Limitations**

POLLUTANT	HOURLY EMISSION LIMIT Per Boiler (lb/hr)	ANNUAL EMISSION LIMIT Per Boiler (tons/year)*
Particulate Matter	0.90	1.0
PM <sub>10</sub> (total)	2.14	2.35
PM <sub>2.5</sub> (total)	2.21	2.44
Nitrogen Oxides (NO <sub>x</sub> )	31.03	34.1
Sulfur Oxides (SO <sub>x</sub> )	18.21	20.03
Carbon Monoxide (CO)	7.88	8.7
Volatile Organic Compounds (VOCs)	0.21	0.2

\*A year is defined as any consecutive 12-month period.

**2. Testing Requirements:**

- a. The permittee shall perform emissions testing on Boilers T1 and T2 at least once every five years for NO<sub>x</sub>, SO<sub>2</sub> and CO in order to determine compliance with the emission limitations specified in condition V.E.1.c above. Such testing shall be in accordance with the following: [§2103.12.h.1; §2108.02.b, §2108.02.e; 2102.04.b.6]
  - 1. Nitrogen oxides shall be determined by any of the EPA Methods 7 through 7E;
  - 2. SO<sub>2</sub> shall be determined by any EPA Methods 6, 6A, 6B, or 6C or equivalent as approved by the Department;
  - 3. CO shall be determined by any EPA Method 10 or equivalent as approved by the Department
- b. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.14 above and Article XXI §2108.02. [§2103.12.h.1]

**3. Monitoring Requirements:**

The volume of coke oven gas and natural gas combusted in Boilers T1 and T2 and the H<sub>2</sub>S content of the coke oven gas shall be monitored and recorded on a daily basis (midnight to midnight). [§2103.12.i]

**4. Record Keeping Requirements:**

- a. The permittee shall keep and maintain the following data Boilers T1 and T2: [§2103.12.j]
  - 1. Records of the type and amount of fuel combusted and the H<sub>2</sub>S content of the coke oven gas (daily, monthly and 12 months)
  - 2. Cold starts (date, time and duration of each occurrence);
  - 3. Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment.
- b. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.j]
- c. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

**5. Reporting Requirements:**

- a. The permittee shall report the following information to the Department semi-annually in accordance with General Condition III.15. The reports shall contain all required information for the time period of the report. The reports shall be postmarked by the 30th day following the end of the reporting period. [§2103.12.k; §2103.12.a.2.D]
  - 1. Monthly and 12-month data required to be recorded by Condition V.F.4.a above;
  - 2. Cold start information; and
  - 3. Non-compliance information required to be recorded by Condition V.F.4.b above
- b. Until terminated by written notice from the Department, the requirement for the permittee to report cold starts 24 hours in advance in accordance with Site Level Condition IV.9 and



§2108.01.d is waived and the permittee may report all cold starts in accordance with Condition V.F.5.a above. [§2103.12.k; §2103.12.a.2.D]

- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k]

**6. Work Practice Standards:**

The permittee shall not, at any time, operate Boilers TI and T2 unless the subject boilers are properly operated and maintained according to good engineering and air pollution control practices at all times. [§2105.03; §2104.02.a.4.D]

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**G. Aboveground Storage Tanks: No.2 Fuel Oil**

**Process Description:** No.2 Fuel Oil  
**Facility ID:** T001  
**Capacity:** 200 gallons  
**Control Device:** None

**1. Restrictions:**

Only No. 2 fuel oil that meets current ASTM shall be stored in the tank at any time with a vapor pressure not to exceed 0.01 psia. (§2103.12.a.2.B)

**2. Testing Requirements:**

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

**3. Monitoring Requirements:**

The permittee shall maintain, for the tank, a record of the material stored, the period of storage and the maximum true vapor pressure of the material. (§2102.04.e; §2103.12.a.2.B)

**4. Recordkeeping Requirements:**

None except as provided elsewhere.

**5. Reporting Requirements:**

None except as provided elsewhere.

## VI. ALTERNATIVE OPERATING SCENARIOS

### A. Cogeneration Unit 1 & 2: SO<sub>2</sub> & PM Alternate Control Scenarios

<b>Process Description:</b>	Combustion Turbines & Heat Recovery Steam Generating Units
<b>Facility ID:</b>	Cogen 1 & Cogen 2
<b>Max. Design Rate:</b>	637 MMBtu/hr (Combustion Turbines) & 437 MMBtu/hr (Heat Recovery Steam Generating Units Duct Burners) (47 MW/hr @ 50°F), each
<b>Raw Materials:</b>	Coke Oven Gas; Natural Gas & COG/NG
<b>Control Device:</b>	Dry Scrubber and Baghouse
<b>Pollutant</b>	SO <sub>2</sub> ; PM/PM <sub>10</sub> /PM <sub>2.5</sub>

*The Clairton Plant proposed the wet scrubber and wet electrostatic precipitator (ESP) for the control of PM and SO<sub>2</sub> in the cogeneration units. The facility is using an alternative control design in which the PM & SO<sub>2</sub> would be controlled to an equivalent level through the combination of a circulating dry scrubber and an advanced baghouse.*

#### 1. Restrictions:

- a. The permittee shall comply with the PM emissions requirements specified in condition V.A.1.m and V.A.1.n [§2102.04.b.6; §2103.12.a.2.D]
- b. The permittee shall comply with the SO<sub>2</sub> emissions requirements specified in conditions V.A.1.i and V.A.1.n [§2102.04.b.6; §2103.12.a.2.D]
- c. The baghouse shall be equipped with automatic cleaning controls and instrumentation that shall continuously measure the pressure drop across the baghouse to within 5 percent of the measuring span of the device [§2103.12.h.6; §2102.04.b.6; §2103.12.a.2.D]

#### 2. Testing Requirements:

- a. The permittee shall comply with the PM/PM<sub>10</sub>/PM<sub>2.5</sub> & SO<sub>2</sub> emissions testing requirements specified in condition V.A.2.c [§2108.02.b; §2108.02.e; §60.4415]
- b. The permittee shall establish the dry scrubber inlet and outlet operating temperature, feed rate and other operating parameters from manufacturer's recommendations, which shall be verified during the stack testing. [§2108.02, §2102.04.b.6, §2105.03]
- c. The permittee shall establish the normal operating differential pressure drop range across the baghouse from manufacturer's recommendations, which shall be verified during the stack testing. [§2108.02, §2102.04.b.6, §2105.03]

#### 3. Monitoring Requirements:

The permittee shall provide instrumentation to continuously monitor and record the pressure drop across the baghouse. If the pressure drop exceeds the normal range as established in Condition VI.A.2.c above, the permittee shall initiate an investigation and implement corrective action within 24 hours [§2102.04.e; §2103.12.i; §2103.12.h.6]

**4. Record Keeping Requirements:**

The permittee shall keep and maintain records required in conditions VI.A.3 [§2102.04.b.6; §2103.12.j]

**5. Reporting Requirements**

The permittee shall report the records required in condition VI.A.4 to the Department in accordance with General Condition III.15. The reports shall contain all required information for the time period of the report: [§2103.12.k.1, §2102.04.b.6]

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**B. Lime Silo, Waste Lime Silo & Two (2) Lime Day Bins**

Process Description: Hydrated lime  
Throughput: 37.5 tons each (hydrated & waste lime)  
System Components: Truck unloading, day bins  
Controls: Bin Vent Filters

**1. Restrictions**

- a. The permittee shall conduct lime handling operations in a manner such that emissions from this operation are not visible at or beyond the facility property line at any time. [§2104.05]
- b. Lime silos and the two (2) lime day bins shall be equipped with exhaust bin filters that shall not cause to be discharged into the atmosphere particulate matter emissions in excess of 0.002 grains/dscf at any time. [§2102.04.b.6, §2105.03]
- c. Hydrated lime silos dust collector shall be operated at all times within the minimum and maximum differential pressure drop across the collector as specified in the manufacturer’s or vendor’s specifications. [§2102.04.b.6, §2105.03]
- d. Emissions from the material handling operation shall not exceed the limitations in Table VI-B-1 below at any time: [§2102.04.b.6; §2103.12.a.2.D; §2104.02.a.1; §2104.03.a.2.A]

**TABLE VI-B-1: Material Handling Emission Limitations**

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	0.04	0.07

\*A year is defined as any consecutive 12-month period.

**2. Testing Requirements**

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing, if required, shall be performed in accordance with Article XXI §2108.02 and Site Level Condition IV.14, entitled “Emissions Testing.” [§2103.12.h.1]

**3. Monitoring Requirements**

The lime silos shall be visibly inspected weekly to determine compliance with conditions VI.B.1.a through VI.B.1.c above. [§2102.04.b.6, §2105.03]

**4. Record Keeping Requirements**

- a. The permittee shall keep and maintain records of operation, maintenance and inspection of the hydrated lime silos and control equipment [§2102.04.b.6]
- b. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2102.04.b.6]

**5. Reporting Requirements**

- a. The permittee shall report the following information to the Department in accordance with General Condition III.15. The reports shall contain all required information for the time period of the report: [§2103.12.k.1, §2102.04.b.6]
  - 1. Non-compliance information required to be recorded by VI.B.4.b.
- b. Reporting instances of non-compliance in accordance with condition VI.B.5.a does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.7 above, if appropriate. [§2103.12.k.1, §2102.04.b.6]

**6. Work Practice Standards**

- a. If any visible emissions from the lime silos are observed to extend beyond the facility property line, the permittee shall take reasonable response steps to eliminate the emissions. Failure to take corrective steps shall be considered a deviation from this permit. [§2105.03, §2102.04.b.6]
- b. The permittee shall handle the recovered or captured waste lime properly and should be disposed of offsite by a licensed hauler. [§2102.04.b.6; §2104.05; §2103.12.a.2.B]

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**VII. EMISSIONS LIMITATIONS SUMMARY**

The annual emission limitations for the cogeneration project are summarized in the following table:

**TABLE VII-1: Emission Limitations Summary**

<b>POLLUTANT</b>	<b>ANNUAL EMISSION LIMIT (tons/year)*</b>
Particulate Matter	12.89
Particulate Matter <10 µm (PM <sub>10</sub> )	44.50
Particulate Matter <2.5 µm (PM <sub>2.5</sub> )	44.35
Nitrogen Oxides (NO <sub>x</sub> )	287.55
Sulfur Oxides (SO <sub>x</sub> )	234.56
Carbon Monoxide (CO)	86.32
Volatile Organic Compounds (VOC)	31.87
Ammonia (NH <sub>3</sub> )	18.97
Lead	0.0066
Total Hazardous Air Pollutants (HAP)	30.26
Greenhouse Gases (CO <sub>2</sub> e)	926,993

\*A year is defined as any consecutive 12-month period.