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RACT 2 Case-by-Case Evaluation

Installation Permit No. 0056-I002

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Pennsylvania Department of Environmental Protection
Bureau of Air Quality

RACT SIP COMPLETENESS CHECKLIST

TO BE FILLED IN BY REGIONAL STAFF AND SUBMITTED TO CENTRAL OFFICE

Facility Name: **Brunot Island Generating Station**

RACT Plan Approval/Permit Number: **Installation Permit No. 0056-I002**

Plan Approval/Permit Issuance Date: **February 28, 2020**

TECHNICAL MATERIALS

<u>Included</u>	<u>Not Included</u>	<u>Not Applicable</u>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Identification of all regulated (NO _x and VOC) pollutants affected by the RACT plan (Review memo and RACT Permit)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Quantification of the changes in plan allowable emissions from the affected sources as a result of RACT implementation. (Review Memo)
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Rationale as to why applicable CTG or ACT regulation is not RACT for the facility. (Review Memo)
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Demonstration that the NAAQS, PSD increment, reasonable further progress demonstration, and visibility, as applicable, are protected if the plan is approved and implemented. (Review Memo)
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In the event of actual emission increase as a result of RACT SIP revision: Modeling information to support the proposed revision, including input data, output data, model used, ambient monitoring data used, meteorological data used, justification for use of offsite data (where used), modes of models used, assumptions, and other information relevant to the determination of adequacy of the modeling analysis. (Review Memo)
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Include evidence, where necessary that emission limitations are based on continuous emission reduction technology. (Review Memo)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State in RACT PA/OP that expiration date shown in PA or OP is for state purposes. Either use the statement below or redact the expiration date on the permit. (Sample: The expiration date shown in this permit is for state purposes. For federal enforcement purposes the conditions of this operating permit which pertain to the implementation of RACT regulations shall remain in effect as part of the State Implementation Plan (SIP) until replaced pursuant to 40 CFR 51 and approved by the U.S. Environmental Protection Agency (EPA). The operating permit shall become enforceable by the U.S. EPA upon its approval of the above as a revision to the SIP.) (RACT Permit)
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Include evidence that the State has the necessary legal authority under State law to adopt and implement the RACT plan. (Reference of PA's Air Pollution Control Act (January 8, 1960, P.L. 2119, as amended and 25 PA Code Chapter 127 (NSR), and 25 PA Code Chapter 129 §§129.91 – 95 in RACT PA/OP). (Review memo or more likely operating permit)

(Back)

- | | | | |
|-------------------------------------|--------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | State that independent technical and economic justification for RACT determination <u>by the Department</u> was performed. As long as you reviewed the companies proposal you may agree with it but that must be stated. (Review memo) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Confidential Business Information excluded, highlighted or marked. Please also redact all checks from the application. (Review Memo, RACT Permit, RACT Plan by the company) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Adequate compliance demonstration, monitoring, recordkeeping, work practice standards, and reporting requirements. (Review memo and RACT Permit) |

ADMINISTRATIVE DOCUMENTS

<u>Attached</u>	<u>Not Attached</u>	<u>Not Applicable</u>
------------------------	--------------------------------	----------------------------------

- | | | | |
|-------------------------------------|--------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Signed</u> copy of final RACT Plan Approval/Operating Permit. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Redacted copy of the RACT Plan Approval/Operating Permit. Reviewer should be able to read the redacted text. (We can do electronically if the PA/OP is uploaded in AIMS or available in pdf format). Make sure that the expiration date of the operating permit is redacted. SIPs do not expire. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Signed Technical Support Document or Review Memorandum. The review memo should contain a discussion about previous case by case RACT determinations so that requirements can be compared |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Public Notice evidence: Include a copy of the actual published notice of the public hearing as it appeared in the local newspaper(s). The newspaper page must be included to show the date of publication. The notice must specifically identify by title and number each RACT regulation adopted or amended. A signed affidavit showing the dates of publication and the newspaper clipping is best. Next best is a copy of the newspaper clippings from all days the article was published. An email showing that the newspaper article was purchased is acceptable unless the EPA receives comments during their comment period stating that there is no proof of publication. The newspaper notice must say that the case by case requirements will be submitted to the EPA as an amendment to the SIP |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | A separate formal certification duly signed indicating that public hearings were held. If no public hearings were held the review memo should state that. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Public hearing minutes: This document must include certification that the hearing was held in accordance with the information in the public notice. It must also list the RACT regulations that were adopted, the date and place of the public hearing, and name and affiliation of each commenter. If there were no comments made during the notice period or at the hearing, please indicate that in the review memo. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Comment and Response Document: A compilation of EPA, company, and public comments and Department's responses to these comments. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Copy of RACT proposal, amendments, and other written correspondence between the Department and the facility. |



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

Minor Source/Minor Modification
INSTALLATION PERMIT

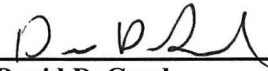
Issued To: **Brunot Island Generating Station**
Brunot Island
Pittsburgh, PA

ACHD Permit#: **0056-1002**

Date of Issuance: **February 28, 2020**

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

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

Prepared By: 
David D. Good
Air Quality Engineer

IV. SITE LEVEL TERMS AND CONDITIONS

Pages 2 through 10 have been redacted.

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~~

19. ~~Episode Plans (§2106.02)~~

Pages 12 through 15 have
been redacted.

~~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.~~

20. ~~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.~~

21. ~~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*, CFR Part 63, Subpart UUUUU *National Emission Standards for Hazardous Air Pollutants for Coal- and Oil-Fired electric Utility Steam Generating Units*, and CFR Part 63, Subpart ZZZZ *National Emission Standards for Stationary Reciprocating Internal Combustion Engines*.~~

22. NO_x Emissions Averaging Plan

- a. 25 Pa. Code §129.97 - Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule. The following Sources are included in a NO_x Averaging Plan: CHESWICK MAIN BOILER NO. 1, CHESWICK AUXILIARY BOILER, BRUNOT ISLAND COMBUSTION TURBINES 2A, 2B AND 3, and BRUNOT ISLAND COMBUSTION TURBINE 1A unless or until ownership or operation is separated or until an application to terminate the plan and modify the respective permits is received by the Department.
- 1) The owner and operator of a source listed in one or more of subsections (b)—(h) of 25 Pa. Code §129.97 located at a major NO_x emitting facility or major VOC emitting facility subject to §129.96 (relating to applicability) shall comply with the applicable presumptive RACT requirement or RACT emission limitation, or both, beginning with the specified compliance date as follows, unless an alternative compliance schedule is submitted and approved under subsections (k)—(m) of 25 Pa. Code §129.97 or §129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule):
- a) January 1, 2017, for a source subject to §129.96(a).

- b) January 1, 2017, or 1 year after the date the source meets the definition of a major NO_x emitting facility or major VOC emitting facility, whichever is later, for a source subject to §129.96(b).
- 2) Except as specified under subsection (c) of 25 Pa. Code §129.97, the owner and operator of a NO_x air contamination source specified in this subsection, which is located at a major NO_x emitting facility or a VOC air contamination source specified in this subsection, which is located at a major VOC emitting facility subject to §129.96 may not cause, allow or permit NO_x or VOCs to be emitted from the air contamination source in excess of the applicable presumptive RACT emission limitation:
 - a) A combustion unit or process heater:
 - i) For a natural gas-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour, 0.10 lb NO_x/million Btu heat input. [CHESWICK MAIN BOILER NO. 1]
 - ii) For a distillate oil-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour, 0.12 lb NO_x/million Btu heat input. [CHESWICK AUXILIARY BOILER]
 - iii) For a coal-fired combustion unit with a rated heat input equal to or greater than 250 million Btu/hour that is:
 - (1) A tangentially fired combustion unit, 0.35 lb NO_x/million Btu heat input. [CHESWICK MAIN BOILER NO. 1]
 - iv) For a coal-fired combustion unit with a selective catalytic reduction system operating with an inlet temperature equal to or greater than 600°F, 0.12 lb NO_x/million Btu heat input. Compliance with this emission limit is also required when by-passing the selective catalytic reduction system. [CHESWICK MAIN BOILER NO. 1]
 - b) A combustion turbine:
 - i) For a combined cycle or combined heat and power combustion turbine with a rated output equal to or greater than 1,000 bhp and less than 180 MW when firing:
 - (1) Natural gas or a noncommercial gaseous fuel, 42 ppmvd NO_x @ 15% oxygen. [BRUNOT ISLAND COMBUSTION TURBINES 2A, 2B AND 3; EQUIVALENT TO 0.155 lb/mmBtu]
 - (2) Natural gas or a noncommercial gaseous fuel, 5 ppmvd VOC (as propane) @ 15% oxygen.
 - ii) For a simple cycle or regenerative cycle combustion turbine with a rated output equal to or greater than 6,000 bhp when firing:
 - (1) Fuel oil, 96 ppmvd NO_x @ 15% oxygen. [BRUNOT ISLAND COMBUSTION TURBINE 1A; EQUIVALENT TO 0.37 lb/mmBtu]
 - (2) Fuel oil, 9 ppmvd VOC (as propane) @ 15% oxygen.

c) A unit firing multiple fuels: [CHESWICK MAIN BOILER NO. 1]

i) The applicable RACT multiple fuel emission limit shall be determined on a total heat input fuel weighted basis using the following equation:

$$E_{HI\text{weighted}} = \frac{\sum_{i=1}^n E_i H_{II}}{\sum_{i=1}^n H_{II}} \text{ \{Equation 2\}}$$

Where:

$E_{HI\text{weighted}}$ = The heat input fuel weighted multiple fuel emission rate or emission limitation for the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.

E_i = The emission rate or emission limit for fuel i during the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.

H_{II} = The total heat input for fuel i during the compliance period.

n = The number of different fuels used during the compliance period.

ii) A fuel representing less than 1% of the unit's annual fuel consumption on a heat input basis is excluded when determining the applicable RACT multiple fuel emission limit calculated in accordance with subparagraph (i).

3) The requirements and emission limitations of this section supersede the requirements and emission limitations of a RACT permit issued to the owner or operator of an air contamination source subject to one or more of subsections (b)—(h) of 25 Pa. Code §129.97 prior to April 23, 2016, under § §129.91—129.95 (relating to stationary sources of NO_x and VOCs) to control, reduce or minimize NO_x emissions or VOC emissions, or both, from the air contamination source unless the permit contains more stringent requirements or emission limitations, or both.

4) The requirements and emission limitations of this section supersede the requirements and emission limitations of § §129.201—129.205, 145.111—145.113 and 145.141—145.146 (relating to additional NO_x requirements; emissions of NO_x from stationary internal combustion engines; and emissions of NO_x from cement manufacturing) unless the requirements or emission limitations of § §129.201—129.205, § §145.111—145.113 or § §145.141—145.146 are more stringent.

b. 25 Pa. Code §129.98 - Facility-wide or system-wide NO_x emissions averaging plan general requirements.

1) The owner or operator of a major NO_x-emitting facility subject to 25 Pa. Code §129.96 (relating to applicability) that includes at least one air contamination source subject to a NO_x RACT emission limitation in 25 Pa. Code §129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) that cannot meet the applicable NO_x RACT emission limitation may elect to meet the applicable NO_x RACT emission limitation in 25 Pa. Code §129.97 by averaging NO_x

emissions on either a facility-wide or system-wide basis using a 30-day rolling average. System-wide emissions averaging must be among sources under common control of the same owner or operator within the same ozone nonattainment area in this Commonwealth. [NOTE: THE CHESWICK STATION AND THE BRUNOT ISLAND STATION ARE BOTH UNDER COMMON OWNERSHIP. THE EMISIONS UNITS INCLUDED IN THE SYSTEM-WIDE NO_x EMISSIONS AVERAGING PLAN ARE THE MAIN BOILER NO. 1 AND THE AUXILIARY BOILER AT CHESWICK AND COMBUSTION TURBINES 1A, 2A, 2B AND 3 AT BRUNOT ISLAND.]

- 2) The owner or operator of each facility that elects to comply with part §129.98(a) shall submit a written NO_x emissions averaging plan to the Department or appropriate approved local air pollution control agency as part of an application for an operating permit modification or a plan approval, if otherwise required. The application incorporating the requirements of this section (25 Pa. Code §129.98) shall be submitted by the applicable date as follows:
 - a) October 24, 2016, for a source subject to 25 Pa. Code §129.96(a).
 - b) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO_x emitting facility, whichever is later, for a source subject to §129.96(b).
- 3) Each NO_x air contamination source included in the application for an operating permit modification or a plan approval, if otherwise required, for averaging NO_x emissions on either a facility-wide or system-wide basis using a 30-day rolling average submitted under part §129.98(b) must be an air contamination source subject to a NO_x RACT emission limitation in 25 Pa. Code §129.97.
- 4) The application for the operating permit modification or the plan approval, if otherwise required, for averaging NO_x emissions on either a facility-wide or system-wide basis using a 30-day rolling average submitted under part §129.98(b) must demonstrate that the aggregate NO_x emissions emitted by the air contamination sources included in the facility-wide or system-wide NO_x emissions averaging plan using a 30-day rolling average are not greater than the NO_x emissions that would be emitted by the group of included sources if each source complied with the applicable NO_x RACT emission limitation in 25 Pa. Code §129.97 on a source-specific basis.
- 5) The owner or operator shall calculate the alternative facility-wide or system-wide NO_x RACT emissions limitation using a 30-day rolling average for the air contamination sources included in the application for the operating permit modification or plan approval, if otherwise required, submitted under part §129.98(b) by using the following equation to sum the emissions for all of the sources included in the NO_x emissions averaging plan:

$$\left[\sum n_i = 1(Ei_{actual}) \right] \leq \left[\sum n_i = 1(Ei_{allowable}) \right]$$

Where:

n = The number of air contamination sources included in the NO_x emissions averaging plan

Ei_{actual} = The actual NO_x mass emissions, including emissions during startups, shutdowns and malfunctions, for air contamination source "i" on a 30-day rolling basis

$Ei_{allowable}$ = The allowable NO_x mass emissions computed using the allowable emission rate limitations for air contamination source "i" on a 30-day rolling basis specified in 25 Pa. Code §129.97. If an air contamination source included in an averaging plan is subject to a numerical emission rate limit that is more stringent than the applicable allowable

emission rate limitation in 25 Pa. §129.97, then the numerical emission rate limit shall be used for the calculation of the allowable NO_x mass emissions.

- 6) The application for the operating permit modification or a plan approval, if otherwise required, specified in parts §129.98(b) through §129.98(e) may include facility-wide or system-wide NO_x emissions averaging using a 30-day rolling average only for NO_x-emitting sources or NO_x-emitting facilities that are owned or operated by the applicant.
- 7) The owner or operator of an air contamination source or facility included in the facility-wide or system-wide NO_x emissions averaging plan submitted in accordance with parts §129.98(b) through §129.98(h) shall submit the reports and records specified in 25 Pa. Code §129.98(g)(3) to the Department or appropriate approved local air pollution control agency on the schedule specified in 25 Pa. Code §129.98(g)(3) to demonstrate compliance with 25 Pa. Code §129.100.
- 8) The owner or operator of an air contamination source or facility included in a facility-wide or system-wide NO_x emissions averaging plan submitted in accordance with parts §129.98(b) through §129.98(h) that achieves emission reductions in accordance with other emission limitations required under the act or the Clean Air Act, or regulations adopted under the act or the Clean Air Act, that are not NO_x RACT emission limitations may not substitute those emission reductions for the emission reductions required by the facility-wide or system-wide NO_x emissions averaging plan submitted to the Department or appropriate approved local air pollution control agency under part §129.98(b).
- 9) The owner or operator of an air contamination source subject to a NO_x RACT emission limitation in 25 Pa. Code §129.97 that is not included in a facility-wide or system-wide NO_x emissions averaging plan submitted under part §129.98(b), shall operate the source in compliance with the applicable NO_x RACT emission limitation in 25 Pa. Code §129.97.
- 10) The owner and operator of the air contamination sources included in a facility-wide or system-wide NO_x emissions averaging plan submitted under part §129.98(b) shall be liable for a violation of an applicable NO_x RACT emission limitation at each source included in the NO_x emissions averaging plan.
- 11) Calculation of the Allowable NO_x Emissions ($E_{i\text{allowable}}$)

- a) For the GenOn Cheswick Main Boiler No 1, the following equation (Equation 3) will be used to calculate Daily $E_{i\text{allowableM}}$ (in lbs):

$$\text{Daily } E_{i\text{allowableM}} = [\sum ni = 1(Z)(C_1) + (X)(C_2) + (G)(C_3)] \text{ \{Equation 3\}}$$

Where:

Daily $E_{i\text{allowableM}}$ = The daily allowable NO_x mass emissions for the GenOn Cheswick Main Boiler No. 1 computed using the allowable emission rate limitations for air contamination source "i" specified in 25 Pa. Code §129.97,

n = The number of operating hours in the day,

Z = 0.12 lb NO_x/mmBTU,

C₁ = The hourly heat input for coal-firing operations when SCR inlet T ≥ 600°F, expressed in units of mmBTU,

X = 0.35 lb NO_x/mmBTU,

C₂ = The hourly heat input for coal-firing operations when SCR inlet T < 600°F, expressed in units of mmBTU,

G = 0.10 lb NO_x/mmBTU,

C₃ = The hourly heat input for gas-firinig operations, expressed in units of mmBTU,

The hourly heat inputs (C₁, C₂, and C₃) shall be determined using fuel F-factors pursuant to 40 CFR Part 75, Appendix F, 40 CFR Part 60, and Appendix A, Method 19 and the data

from the certified flue gas monitor. The SCR inlet temperature shall be continuously monitored for the Main Boiler No. 1.

- b) For the Cheswick Auxiliary Boiler, the following equation (Equation 4) will be used to calculate Daily $E_{i_{allowableA}}$ (in lbs.):

$$\text{Daily } E_{i_{allowableA}} = [(Y)(FO)] \text{ \{Equation 4\}}$$

Where:

Daily $E_{i_{allowableA}}$ = The daily allowable NO_x mass emissions for the Cheswick Auxiliary Boiler computed using the allowable emission rate limitations for air contamination source "i" specified in 25 Pa. Code §129.97.,

Y = 0.12 lb NO_x/mmBTU,

FO = The daily total heat input for No. 2 Fuel Oil, expressed in units of mmBTU

- c) For the Brunot Island Combustion Turbine 1A, the following equation (Equation 5) will be used to calculate Daily $E_{i_{allowableBI1A}}$ (in lbs):

$$\text{Daily } E_{i_{allowableBI1A}} = [(W)(FO)] \text{ \{Equation 5\}}$$

Where:

Daily $E_{i_{allowableBI1A}}$ = The daily allowable NO_x mass emissions for the Brunot Island Combustion Turbine 1A computed using the allowable emission rate limitations for air contamination source "i" specified in 25 Pa. Code §129.97,

W = 0.37 lb NO_x/mmBTU (equivalent to 96 ppmvd NO_x @ 15% oxygen),

FO = The daily total heat input for No. 2 Fuel Oil, expressed in units of mmBTU,

The daily heat inputs shall be determined using fuel F-factors pursuant to 40 CFR Part 75, Appendix F, 40 CFR Part 60, Appendix A, Method 19, and fuel use records

- d) For each Brunot Island Combustion Turbines 2A, 2B & 3, the following equation (Equation 6) will be used to calculate Daily $E_{i_{allowableM}}$ (in lbs) for each turbine:

$$\text{Daily } E_{i_{allowableBI[2A,2B,3]}} = [\sum n_i = 1(U)(G_1) + (V)(G_2)] \text{ \{Equation 6\}}$$

Where:

Daily $E_{i_{allowableBI[2A,2B,3]}}$ = The daily allowable NO_x mass emissions for the Brunot Island Turbines 2A, 2B & 3 computed using the allowable emission rate limitations for air contamination source "i" specified in 25 Pa. Code §129.97,

n = The number of operating hours in the day,

U = 0.155 lb NO_x/mmBTU (Equivalent to 42 ppmvd NO_x @ 15% oxygen),

G₁ = The hourly heat input for operation when combustion turbine output is <60% load, expressed in units of mmBTU,

V = 0.013 lb NO_x/mmBTU (Equivalent to 3.5 ppmvd NO_x @ 15% oxygen),

G₂ = Hourly heat input for operation when combustion turbine output is > 60% load, expressed in units of mmBTU,

The hourly heat inputs (G₁ & G₂) shall be determined using measurements and fuel F-factors pursuant to 40 CFR Part 75, Appendix F, 40 CFR Part 60, and Appendix A, Method 19 and fuel use records.

- e) The following equation (Equation 7) will be used to calculate Daily $E_{i\text{allowable}}$:

$$\text{Daily } E_{i\text{allowable}} = \text{Daily } E_{i\text{allowable}M} + \text{Daily } E_{i\text{allowable}A} + \text{Daily } E_{i\text{allowable}BI1A} + \text{Daily } E_{i\text{allowable}BI2} + \text{Daily } E_{i\text{allowable}BI2A} + \text{Daily } E_{i\text{allowable}BI3} \text{ \{Equation 7\}}$$

- f) The 30-day rolling system-wide allowable NO_x mass emissions ($E_{i\text{allowable}}$) are calculated by summing the allowable NO_x mass emissions for the Cheswick Main Boiler No. 1, Cheswick Auxiliary Boiler (limited to a rolling 12-month capacity factor of 10%), Brunot Island Combustion Turbine 1A (limited to a rolling 12-month capacity factor of 36%), Brunot Island Combustion Turbine 2A, Brunot Island Combustion Turbine 2B and Brunot Island Combustion Turbine 3 for each operating day (Daily $E_{i\text{allowable}}$) and the previous 29 operating days. An operating day is a day in which any of the units in the plan combust fuel.

12) Comparison of $E_{i\text{actual}}$ to $E_{i\text{allowable}}$

- a) Beginning on January 1, 2017, the permittee shall demonstrate compliance with the alternative system-wide NO_x RACT emissions limitation using a 30-day rolling average by comparing $E_{i\text{actual}}$ to $E_{i\text{allowable}}$ for each system operating day.
- b) For each 30-day rolling period in which $E_{i\text{actual}}$ exceeds $E_{i\text{allowable}}$, the permittee shall be liable for a violation of the applicable NO_x RACT emission limitation at each of the units included in the system-wide NO_x emissions averaging plan pursuant to 25 Pa. Code §129.98(m).

c. 25 Pa. Code §129.100 – Compliance demonstration and recordkeeping requirements.

- 1) Except as provided in subsection (c) of 25 Pa. Code §129.100, the owner and operator of an air contamination source subject to a NO_x RACT requirement or RACT emission limitation or VOC RACT requirement or RACT emission limitation, or both, listed in § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation by performing the following monitoring or testing procedures:

- a) For an air contamination source with a CEMS, monitoring and testing in accordance with the requirements of Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources) using a 30-day rolling average, except municipal waste combustors.

- i) A 30-day rolling average emission rate for an air contamination source that is a combustion unit shall be expressed in pounds per million Btu and calculated in accordance with the following procedure:

- (1) Sum the total pounds of pollutant emitted from the combustion unit for the current operating day and the previous 29 operating days.
- (2) Sum the total heat input to the combustion unit in million Btu for the current operating day and the previous 29 operating days.
- (3) Divide the total number of pounds of pollutant emitted by the combustion unit for the 30 operating days by the total heat input to the combustion unit for the 30 operating days.

- ii) A 30-day rolling average emission rate for each applicable RACT emission limitation shall be calculated for an affected air contamination source for each consecutive operating day.
 - iii) Each 30-day rolling average emission rate for an affected air contamination source must include the emissions that occur during the entire operating day, including emissions from start-ups, shutdowns and malfunctions.
- b) For an air contamination source without a CEMS, monitoring and testing in accordance with a Department-approved emissions source test that meets the requirements of Chapter 139, Subchapter A (relating to sampling and testing methods and procedures). The source test shall be conducted one time in each 5-year calendar period.
- 2) Except as provided in §129.97(k) and §129.99(i) (relating to alternative RACT proposal and petition for alternative compliance schedule), the owner and operator of an air contamination source subject to subsection (a) of 25 Pa. Code §129.100 shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation in accordance with the procedures in subsection (a) of 25 Pa. Code §129.100 not later than:
 - a) January 1, 2017, for a source subject to §129.96(a) (relating to applicability).
 - b) January 1, 2017, or 1 year after the date that the source meets the definition of a major NO_x emitting facility or major VOC emitting facility, whichever is later, for a source subject to §129.96(b).
- 3) The owner and operator of an air contamination source subject to this section and § §129.96—129.99 shall keep records to demonstrate compliance with § §129.96—129.99 in the following manner:
 - a) The records must include sufficient data and calculations to demonstrate that the requirements of § §129.96—129.99 are met.
 - b) Data or information required to determine compliance shall be recorded and maintained in a time frame consistent with the averaging period of the requirement.
- 4) The records shall be retained by the owner or operator for 5 years and made available to the Department or appropriate approved local air pollution control agency upon receipt of a written request from the Department or appropriate approved local air pollution control agency.
- 5) The permittee shall submit quarterly RACT system-wide NO_x emissions averaging reports to the Department or appropriate approved local air pollution control agency. The permittee shall also submit a copy of each quarterly RACT system-wide NO_x emissions averaging report described in this operating permit condition along with the quarterly CEMS reports. The permittee's demonstration of compliance with the system-wide NO_x emissions limit shall be included in the quarterly RACT system-wide NO_x emissions averaging report.
- 6) The quarterly RACT system-wide NO_x emissions averaging reports shall be submitted according to the following schedule:
 - a) The quarterly report for the period of January 1 - March 31 is due no later than April 30.

- b) The quarterly report for the period of April 1 - June 30 is due no later than July 30.
- c) The quarterly report for the period of July 1 - September 30 is due no later than October 30.
- d) The quarterly report for the period of October 1 - December 31 is due no later than January 30.
- e) The permittee may request, in writing, an extension of time from the Department or appropriate approved local air pollution control agency for the filing of a quarterly RACT systemwide NO_x emissions averaging report specified in part (a) of 25 Pa. Code §129.100, and the Department or appropriate approved local air pollution control agency may grant, in writing, the extension for reasonable cause.

V. EMISSION UNIT LEVEL TERMS AND CONDITIONS

A. Combustion Turbine 1A

Process Description: Simple Cycle Combustion Turbine
Facility ID: 1A
Maximum Design Rate: 300 MMBtu/hr
Fuel(s): No. 2 Fuel Oil
Control Device(s): None

1. Restrictions:

- a. ~~The permittee shall continue to meet the conditions of Operating Permit No. 0056, in addition to the revisions in this permit. (§2102.04.b.5)~~
- b. Only no.2 fuel oil with a maximum sulfur content of 0.2% shall be combusted in the combustion turbine. (§2103.12.a.2.B, 25 Pa. Code §129.99)
- c. The combustion turbine shall be operated in simple cycle mode only. (§2103.12.a.2.B, 25 Pa. Code §129.99)
- d. The maximum allowable capacity factor shall not exceed 36% in any consecutive twelve months. The capacity factor is the ratio of total net electrical power generation [in units of Megawatt-hours (MWH)] for the last twelve (12) months to the Maximum Capacity of the generator [in units of Megawatts (MW)] for the same 12-month period as expressed in the following formula: (RACT Order No. 214, condition 1.4, 25 Pa. Code §129.99, 25 Pa. Code §129.97(c)(7))

$$\frac{[12\text{-month rolling power generation for all units (in MWH)] \times 100}{[\text{Maximum electrical capacity (in MW)}] \times 8760 \text{ hrs}}$$
- e. Emissions of nitrogen oxides from unit 1A shall not exceed 96 ppmvd @ 15% oxygen (0.370 lb/MMBtu). (25 Pa. Code §129.97(g)(2)(iv)(B), 25 Pa. Code §129.99)
- f. Emissions of volatile organic compounds from unit 1A shall not exceed 9 ppmvd (as propane) @ 15% oxygen. (25 Pa. Code §129.97(g)(2)(iv)(D))
- g. Fuel oil combustion in unit 1A shall not exceed 2,200 gallons/hr or 6,937,920 gallons per consecutive twelve-month period. (§2103.12.a.2.B, 25 Pa. Code §129.99)
- h. The emissions due to operation of the simple cycle turbine 1A shall not exceed the following emission limitations: (25 Pa. Code §129.97(g)(2)(i)(B), 25 Pa. Code §129.97(g)(2)(iv)(D)), 25 Pa. Code §129.99, §2103.12.a.2.B)

TABLE V-A-1: Unit 1A Emission Limitations (with averaging plan)

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year) ¹
Nitrogen Oxides	110 ⁽²⁾	175.0
Volatile Organic Compounds	4.1	6.54

1) A year is defined as any consecutive 12-month period.

2) 30-day rolling average

- i. Compliance with the nitrogen oxides emission limitations of V.A.1.e above shall be determined through following the NO_x Emissions Averaging Plan requirements in Condition IV.22 above. (25 Pa. Code §129.98; 25 Pa. Code §129.99; 25 Pa. Code §129.100)
- j. If the NO_x Averaging Plan described in Condition IV.22 above is terminated by ownership transfer or permit application to terminate the plan, the limits in V.A.1.d, V.A.1.e, V.A.1.f, and V.A.1.h above are replaced by the following: (RACT Order No. 214, condition 1.4; Operating permit no. 1065009-000-23600; 25 Pa. Code §129.97(c)(7); 25 Pa. Code §129.99, 25 Pa. Code §129.100, §2103.12.a.2.B):
- 1) The permittee shall install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices.
 - 2) Emissions of nitrogen oxides from each unit shall not exceed 0.698 lb/MMBtu.
 - 3) Emissions of volatile organic compounds from each unit shall not exceed 0.002% of stack gas volume.
 - 4) The capacity factor of Combustion Turbine 1A shall be less than 5% in any consecutive 12-month period.

TABLE V-A-1a: Unit 1A Emission Limitations (without averaging plan)

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year) ¹
Nitrogen Oxides	209.4	45.9
Volatile Organic Compounds	9.22	2.0

1) A year is defined as any consecutive 12-month period.

- k. Emissions of nitrogen oxides from unit 1A shall not exceed 0.698 lb/MMBtu. (RACT Order No. 214, condition 1.4, 25 Pa. Code §129.99)

2. Testing Requirements:

- a. NO_x emissions testing shall be conducted within six (6) months following any consecutive twelve (12) month period where the combined average capacity factor of all units operating in simple cycle combustion mode is greater than 3.5%. The subsequent tests shall be conducted on Unit 1A operating in simple cycle mode according to U.S. EPA approved reference test methods 6C and 7E, or other method approved by the Department, and Site Level Condition IV.14 above. (RACT Order No. 214, condition 1.6, §2103.12.a.2.B, Pa. Code §129.99; 25 Pa. Code §129.100)

- b. NO_x emissions testing on the unit shall be performed at least once every five (5) years. (§2103.12.h.1, Pa. Code §129.99; 25 Pa. Code §129.100)
- c. 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, Pa. Code §129.99; 25 Pa. Code §129.100)

3. Monitoring Requirements:

- a. The permittee shall monitor the sulfur content of the fuel oil used in unit 1A each time the fuel oil is transferred into storage tanks T-001 and T-002. Sulfur content shall be determined by ASTM D 2880-71 or another method approved by the Department. Analyses by the fuel supplier of the fuel as received, using the proscribed test methods, shall be acceptable to fulfill this requirement. (§2103.12.a.2.B; RACT Order No. 214, condition 1.6, Pa. Code §129.99; 25 Pa. Code §129.100)
- b. The permittee shall install, operate, and maintain a fuel flow monitor to measure the fuel combusted by the combustion turbine. (§2103.12.a.2.B, Pa. Code §129.99; 25 Pa. Code §129.100)

4. Record Keeping Requirements:

- a. The permittee shall record fuel usage and fuel analysis data for Unit 1A while operating in SCC mode. (RACT Order No. 214, condition 1.6 §2103.12.j, 25 Pa. Code §129.100)
- b. The permittee shall keep and maintain the following data for the combustion turbine: (§2103.12.j, 25 Pa. Code §129.100)
 - 1) Fuel consumption, fuel sulfur content and hours of operation (daily, monthly, 12-month);
 - 2) The date, time, cause and the action taken to correct any malfunction (upon occurrence, monthly);
 - 3) The start-up and shutdown of the combustion turbine, including date, time and duration of each event (upon occurrence, monthly);
 - 4) Records of fuel analyses required by Condition V.A.3.a above (each shipment);
 - 5) Manufacturers specifications for the combustion turbines, duct burners and air pollution control equipment onsite;
 - 6) Records of operation, maintenance, inspection, calibration and/or replacement of combustion and control equipment;
 - 7) Stack test protocols and reports;
 - 8) Net Generation in Megawatt-hours (MWH)
- 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.h.1, 25 Pa. Code §129.100)
- d. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [§2103.12.j.2, 25 Pa. Code §129.100]

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, 25 Pa. Code §129.100)
 - 1) Monthly data required to be recorded by condition V.A.4.b above;
 - 2) Rolling 12-month total emissions for nitrogen oxides;
 - 3) Rolling twelve-month heat input totals for each combustion turbine, and
 - 4) Non-compliance information required to be recorded by condition V.A.4.c above.
- ~~b. 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 at all times properly operate and maintain all process and emission control equipment at the facility according to good engineering practice. (RACT Order No. 214, condition 1.10, 25 Pa. Code §129.99)

B. Combustion Turbines 2A, 2B & 3

Process Description: Three GE 7000B (678 MMBtu/hr) Combustion Turbines (name plate ratings of 63 MW base), each with 240 MMBtu/hr HRSGs
Facility ID: Units 2A, 2B & 3
Capacity: 918 MMBtu/hr per unit (Combustion Turbine and HRSG)
Fuel: Natural gas
Control Device: Water injection with SCR

1. Restrictions:

- a. ~~The permittee shall continue to meet the conditions of Operating Permit No. 0056, in addition to the revisions in this permit. (§2102.04.b.5)~~
- b. Only pipeline natural gas shall be combusted in the combustion turbines and HRSGs. (Installation Permit #0056-I001c, condition V.A.1.a; §2102.04.b.6, 25 Pa. Code §129.99)
- c. Heat input to each HRSG duct burner shall be limited to 240 MMBtu/hr. (Installation Permit #0056-I001c, condition V.A.1.b; §2102.04.b.6, 25 Pa. Code §129.99)
- d. Nitrogen oxides emissions shall not exceed 3.5 ppm_{vd} @ 15% O₂ during any three hour time period at or above 60% of full load. Each hour of the 3-hour time period shall be a clock hour. (Installation Permit #0056-I001c, condition V.A.1.c; §2102.04.b.6, 25 Pa. Code §129.99)
- e. Emissions of nitrogen oxides from each unit shall not exceed 42 ppmvd @ 15% oxygen. (25 Pa. Code §129.97(g)(2)(i)(A), 25 Pa. Code §129.99)
- f. Emissions of volatile organic compounds from each unit shall not exceed 5 ppmvd (as propane) @ 15% oxygen. (25 Pa. Code §129.97(g)(2)(i)(C))
- g. Emissions due to operation of each combined cycle turbine 2A, 2B & 3 shall not exceed the following limitations: (Installation Permit #0056-I001c, condition V.A.1.i; §2102.04.b.6; 25 Pa. Code §129.97(g)(2)(i)(A), 25 Pa. Code §129.99)

TABLE V-B-1: Units 2A, 2B and 3 Emission Limitations (Each Unit)

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year) ¹
Nitrogen Oxides	11.8 ²	51.7
Volatile Organic Compounds	3.0 ³ /6.0 ⁴	12

(1) A year is defined as any 12 consecutive months.

(2) Rolling 3-hour average

(3) Emissions at 90-100% full load

(4) Emissions at less than 90% full load

- h. Compliance with the nitrogen oxides emission limitations of V.B.1.e above shall be determined through following the NO_x Emissions Averaging Plan requirements in Condition IV.22 above. (25 Pa. Code §129.98; 25 Pa. Code §129.99; 25 Pa. Code §129.100)
- i. If the NO_x Averaging Plan described in Condition IV.22 above is terminated by ownership transfer or permit application to terminate the plan, the 25 Pa. Code §129 applicable NO_x emission limitations of V.B.1.d, V.B.1.e and V.B.1.g above shall be demonstrated for each emissions unit individually. (25 Pa. Code §129.99; 25 Pa. Code §129.100)

2. Testing Requirements:

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, 25 Pa. Code §129.100)

3. Monitoring Requirements:

- a. The permittee shall install, operate and maintain continuous emission monitors for nitrogen oxides, oxygen and carbon monoxide on each unit. (Installation Permit #0056-I001c, condition V.A.3.a; §2108.03.a., b., and c., 25 Pa. Code §129.100)
- b. Continuous emission monitoring systems for exhaust gas flow (or the fuel flow monitors specified by V.B.3.c below), nitrogen oxides, carbon monoxide (CO) and oxygen (O₂) shall be approved by the Department and installed, operated and maintained in accordance with the requirements of 25 Pa Code Chapter 139 and Article XXI, §2108.03. (Installation Permit #0056-I001c, condition V.A.3.b, 25 Pa. Code §129.100)
 - 1) No continuous emission monitoring system shall be considered to meet the requirements of this permit unless such system has been approved by the Department in writing. At least 45 days prior to installing any such system, or at such other times as is specified in an applicable order or permit condition, the person responsible for the affected source shall make written application to the Department for the approval of such system, which application shall include a thorough description of the system, the location where such system will be installed, a program for periodic calibration, zero and span drift checks and other quality assurance procedures and all other information needed by the Department to evaluate such system. The Department shall make its evaluation in accordance with all relevant guidelines, including the performance specifications and other requirements of Appendix P of 40 CFR Part 51 and Appendix B of 40 CFR Part 60, including all modifications to such appendices as may hereafter be made by the EPA. (Installation Permit #0056-I001c, condition V.A.3.b.2); §2108.03.e.)
 - 2) Failure to install and operate any continuous emissions monitoring system required by this permit or by an order, within the time specified, the failure to retain any data or submit any report so required, or the knowing retention or reporting of false data shall be a violation of this permit giving rise to the remedies provided by Article §2109.02. (Installation Permit #0056-I001c, condition V.A.3.b.3); §2108.03.f.)
- c. Continuous fuel flow monitors shall be installed and maintained in accordance with 40 CFR Part 75 Appendix D Chapter 2.1. (Installation Permit #0056-I001c, condition V.A.3.c, 25 Pa. Code §129.100)

- d. The following parameters shall be monitored for each SCR: (Installation Permit #0056-I001c, condition V.A.3.e; §2103.12.j & k, 25 Pa. Code §129.100)
 - 1) Catalytic bed inlet gas temperature (at least once every 15 minutes);
 - 2) Ammonia solution injection rate. (at least once every 15 minutes); and
 - 3) Ammonia solution concentration.

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data for units 2A, 2B & 3: (Installation Permit #0056-I001c, conditions V.A.4 b, c, d, e, f & g, §2103.12.a.2.B, §2103.12.j.2, 25 Pa. Code §129.100)
 - 1) Hourly fuel consumption and hours of operation (monthly total fuel, 12-month rolling totals);
 - 2) Emissions for the following pollutants: nitrogen oxides (monthly total emissions, 12-month rolling totals);
 - 3) The date, time, cause and the action taken to correct any malfunction (upon occurrence, monthly) ;
 - 4) Manufacturer's specifications for all CEMs that are required by this permit (maintained on site);
 - 5) Manufacturer's specifications for the combustion turbines, duct burners and air pollution control equipment (maintained on site);
 - 6) Records of operation (including parameters required to be monitored in Condition V.B.3.d above), maintenance, inspection, calibration and/or replacement of combustion and control equipment; and
 - 7) Stack test protocols and reports.
- b. The permittee shall keep and maintain records sufficient to demonstrate compliance with the annual limits for the 3-hour NO_x emission limitation in Conditions V.B.1.d and V.B.1.g above. (Installation Permit #0056-I001c, condition V.A.4.h, §2103.12.j.2, 25 Pa. Code §129.100)
- c. The permittee shall keep and maintain all records required by 40 CFR Parts 72 through 78. (Installation Permit #0056-I001c, condition V.A.4.i, 25 Pa. Code §129.100)
- d. 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 and/or electronic data for continuous monitoring instrumentation, and copies of all reports required by this permit. (Installation Permit #0056-I001c, condition V.A.4.b & V.A.4.j; §2103.12.j.2, 25 Pa. Code §129.100)
- e. 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.h.1, 25 Pa. Code §129.100)
- f. 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, 25 Pa. Code §129.100)

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department in 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, Installation Permit #0056-I001c, condition V.A.5.a, 25 Pa. Code §129.100)
 - 1) Monthly data required to be recorded by condition V.B.4.a above;
 - 2) Rolling 12-month total emissions for nitrogen oxides, carbon monoxide, and sulfur oxides; and
 - 3) Non-compliance information required to be recorded by condition V.B.4.e above.
- b. The permittee shall report exceedances to the Department in accordance with 40 CFR Part 77 Excess Emissions reporting requirements. (Installation Permit #0056-I001c, condition V.A.5.b, 25 Pa. Code §129.100)
- c. The permittee shall report emissions to the Department in accordance with 40 CFR Part 75 Continuous Emission Monitoring reporting requirements. (Installation Permit #0056-I001c, condition V.A.5.b, 25 Pa. Code §129.100)
- d. Condition V.B.5.c above can be met by submitting quarterly reports to the U.S. EPA Clean Air Markets Division, as per 40 CFR Part 75. (40 CFR Part 75, 25 Pa. Code §129.100)
- e. ~~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 Units 2A, 2B, and 3 and the associated control equipment and monitoring instrumentation in accordance with the manufacturer's specifications and good air pollution control practice. (Installation Permit #0056-I001c, condition V.A.3.f, 25 Pa. Code §129.99)
- b. The permittee shall at all times properly operate and maintain all process and emission control equipment at the facility according to good engineering practice. (25 Pa. Code §129.99)

Pages 33 through 34
have been redacted.

ALLEGHENY COUNTY HEALTH DEPARTMENT AIR QUALITY PROGRAM

February 28, 2020

SUBJECT: Reasonable Available Control Technology (RACT II) Determination
Brunot Island Generating Station
Brunot Island
Pittsburgh, PA
Allegheny County

Title V Installation Permit No. 0056-I002

TO: JoAnn Truchan, P.E.
Section Chief, Engineering

FROM: David D. Good
Air Quality Engineer

I. Executive Summary

The Brunot Island Generating Station (Brunot Island) is defined as a major source of NO_x and VOC emissions and was subjected to a Reasonable Available Control Technology II (RACT II) review by the Allegheny County Health Department (ACHD) required for the 1997 and 2008 Ozone National Ambient Air Quality Standard (NAAQS). The findings of the review established that technically and financially feasible RACT would result in the following emissions changes, summarized below.

Table 1 Technically and Financially Feasible Control Options Summary for NO_x and VOC

The Permittee has elected to enter into a system-wide NO_x emissions averaging plan with the Cheswick Generating Station, as per 25 PA Code §129.98. The following Sources are included in a NO_x Averaging Plan: CHESWICK MAIN BOILER NO. 1, CHESWICK AUXILIARY BOILER, BRUNOT ISLAND COMBUSTION TURBINES 2A, 2B AND 3, and BRUNOT ISLAND COMBUSTION TURBINE 1A unless or until ownership or operation is separated or until an application to terminate the plan and modify the respective permits is received by the Department.

Brunot Island Units 1A, 2A, 2B and 3 shall all meet the 25 PA Code 25 PA Code §129.97 Presumptive RACT II requirements for VOC emissions.

II. Regulatory Basis

ACHD requested all major sources of NO_x (potential emissions of 100 tons per year or greater) and all major sources of VOC (potential emissions of 50 tons per year or greater) to reevaluate NO_x and/or VOC RACT for incorporation into Allegheny County's portion of the PA SIP. The non-exempt sources at Brunot Island (Combustion Turbines, 1A, 2A, 2B and 3) are subject to presumptive RACT requirements. The facility has requested that these 4 units along with Main Boiler No. 1 and the Auxiliary Boiler from the Cheswick Generating Station be added into a system-wide NO_x emissions averaging plan, as per 25 Pa Code 129.98. This document is the result of ACHD's determination of RACT for these four emission sources at Brunot Island based on the materials submitted by the subject source and other relevant information.

III. Facility Description, Existing RACT I and Sources of NO_x

The Brunot Island Generating Station is a commercial electrical power generation facility. The source is composed of one 22 MW base rating no.2 fuel oil-fired simple cycle combustion turbine and three 63 MW base rating natural gas fired combined cycle combustion turbines. Each combined cycle turbine is equipped with a heat recovery steam generator (HRSG) that is supplied with duct burners rated at 240 MMBtu. The simple cycle combustion turbine has no emission controls and the combined cycle units are equipped with selective catalytic reduction (SCR) and water injection for NO_x control. Brunot Island is a major source of NO_x emissions.

On May 20th, 1996 the facility entered into a consent decree with the Department to meet RACT I obligations under RACT Order No. 214. RACT Order 214 was approved as RACT by EPA in 2001 (66 FR 52867). The RACT I requirements are listed in Table 2 below:

Table 2 **RACT I Summary**

Source	RACT Order 214 Condition No.	RACT I Requirement
Combustion Turbine 2A, 2B, 3	I.1.1	At no time shall the permittee operate units 2A, 2B or 3 in combined combustion cycle (hereafter referred to as CCC) mode at the facility without properly installed and operating water/steam injection NO _x control system in place at these units.
Combustion Turbine 2A, 2B, 3	I.1.2	At no time shall the permittee operate units 2A, 2B or 3 in CCC mode at the facility without properly installed and operating NO _x CEMS.
Combustion Turbine 2A, 2B, 3	I.1.3	At no time shall the permittee operate units 2A, 2B or 3, when operating in CCC mode, to exceed the following NO _x emissions limitations and annual average capacity limitations: 0.25 lbs/MMBtu, 1,039 tons/year, 100% Maximum Annual Capacity Factor. The Permittee shall determine compliance with the lb/MMBtu emission limitations for CCC mode of operation by using CEMS data averaged over a twenty-four (24) hour period and tons per year emission limitations by using CEMS data.
Units 1A	I.1.4	At no time shall the permittee allow units 1A to exceed the following NO _x emissions limitations and annual average capacity limitations when operating in Simple Combustion Cycle (SCC) mode (Unit; lbs/MMBtu; TPY; Maximum Annual Capacity Factor): - 1A; 0.698 lb/MMBtu; 330 tpy; 36%
Units 1A	I.1.5	The permittee shall conduct initial NO _x emission tests while operating in SCC mode.
Units 1A	I.1.6	The permittee shall record fuel usage and fuel analyses data in order to determine compliance with the established NO _x emission limitations while operating in SCC Mode. Subsequent NO _x emission tests shall be conducted within six (6) months following any consecutive twelve (12) month period where the consecutive twelve (12) month combined average capacity factor for all units operating in SCC mode is greater than 3.5%.
Units 1A, 2A, 2B and 3	I.1.8	The permittee shall maintain all appropriate records to demonstrate compliance with the requirements of both Section 2105.06 of Article XXI and this Order.
Units 1A, 2A, 2B and 3	I.1.9	The permittee shall retain all records required by both Section 2105.06 of Article XXI and this Order for this facility for at least two

		(2) years and shall make the same available to the Department upon request.
Units 1A, 2A, 2B and 3	I.1.10	The permittee shall at all times properly operate and maintain all process and emission control equipment at the facility according to good engineering practice.

Table 3	Facility Sources Subject to Case-by-Case RACT II and Their Existing RACT I Limits
The Permittee has elected to enter into a system-wide NO _x emissions averaging plan with the Brunot Island Generating Station, as per 25 PA Code §129.98. The following Sources are included in a NO _x Averaging Plan: CHESWICK MAIN BOILER NO. 1, CHESWICK AUXILIARY BOILER, BRUNOT ISLAND COMBUSTION TURBINES 2A, 2B AND 3, and BRUNOT ISLAND COMBUSTION TURBINE 1A unless or until ownership or operation is separated or until an application to terminate the plan and modify the respective permits is received by the Department.	

Table 4 Facility Sources Subject to the Presumptive RACT II per PA Code 129.97

Source ID	Description	Rating	NO _x PTE (TPY)	VOC PTE (TPY)	Basis for Presumptive	Presumptive RACT Requirement (25 Pa Code Section 129.97)
1A	No. 2 fuel oil-fired Simple Cycle Combustion Turbine	300 MMBtu/hr	330.2	14.54	129.97(g)(2)(IV)(B) 129.97(g)(2)(IV)(D)	Emissions of nitrogen oxides from unit 1A shall not exceed 96 ppmvd @ 15% oxygen (0.370 lb/MMBtu). Emissions of volatile organic compounds from unit 1A shall not exceed 9 ppmvd (as propane) @ 15% oxygen.
2A, 2B & 3	Natural gas-fired Combined Cycle Combustion Turbines	678 MMBtu/hr (each unit) w/ 240 MMBtu/hr HRSG (each unit)	51.7 (each unit)	12.0 (each unit)	129.97(g)(2)(i)(A) 129.97(g)(2)(i)(C)	Emissions of nitrogen oxides from unit 2A, 2B and 3 shall not exceed 42 ppmvd @ 15% oxygen. Emissions of volatile organic compounds from unit 2A, 2B and 3 shall not exceed 5 ppmvd (as propane) @ 15% oxygen.
1A-DS	Diesel Starter Engine	3.4 MMBtu/hr	4.4	0.4	129.97(c)	The permittee shall install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices.
FP1	Diesel Fire Pump	2.1 MMBtu/hr	2.2	0.2	129.97(c)	The permittee shall install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices.

IV. RACT Determination

Unit 1A at Brunot Island is not able to meet the Presumptive NO_x Requirements per PA Code 129.97(g)(2)(IV)(B). Unit 1A is able to meet the Presumptive VOC Requirements per PA Code 129.97(g)(2)(IV)(D). Units 2A, 2B and 3 are all able to meet the Presumptive NO_x and VOC Requirements. The permittee submitted an official request to establish a NO_x Averaging Plan on September 23, 2016 to include the following sources beginning January 1, 2017: CHESWICK MAIN BOILER NO. 1, CHESWICK AUXILIARY BOILER, BRUNOT ISLAND COMBUSTION TURBINES 2A, 2B AND 3, and BRUNOT ISLAND COMBUSTION TURBINE 1A. The request satisfied the requirements promulgated under 25 Pa. Code §§129.96 - 129.100: Additional RACT Requirements for Major Sources of NO_x and VOCs ("RACT II Rule"). The averaging plan requires that the permittee calculate a rolling 30-day average compliance limit and compare that limit with actual NO_x emissions for the last 30 days for which any unit in the plan operates. Per Pa Code §129.98, actual and allowable emissions are totaled as NO_x mass and compared as illustrated below.

$$\sum_{i=1}^n Ei_{actual} \leq \sum_{i=1}^n Ei_{allowable}$$

Where,

$E_{i\text{actual}}$ = The actual NO_x mass emissions, including emissions during start-ups, shutdowns and malfunctions, for air contamination source i on a 30-day rolling basis.

$E_{i\text{allowable}}$ = The allowable NO_x mass emissions computed using the allowable emission rate limitations for air contamination source i on a 30-day rolling basis specified in § 129.97. If an air contamination source included in an averaging plan is subject to a numerical emission rate limit that is more stringent than the applicable allowable emission rate limitation in § 129.97, then the numerical emission rate limit shall be used for the calculation of the allowable NO_x mass emissions.

n = The number of air contamination sources included in the NO_x emissions averaging plan.

The Permittee generates daily reports to assure compliant operations and reports the results, including emissions unit data to the Department on a quarterly basis. A sample calculation to help illustrate how the averaging plan works in practice is shown below:

NO_x Emissions System-Wide Averaging Plan Example (all units operating at rated heat input)							
Unit	Over a Rolling 30-Calendar Day Period						
	Daily Operating Hours (hrs)	Rated Heat Input (MMBtu/hr)	Applicable Averaging Plan Limit (lb/MMBtu)	Actual Rate (lb/MMBtu)	Actual NO _x Mass tons	Allowable NO _x Mass tons	Monitoring and Recordkeeping Procedures
Cheswick Boiler No. 1	24.0	5500	0.12	0.10	198.0	237.6	1, 3
Cheswick Auxiliary Boiler	4.0	160	0.12	0.13	1.2	1.2	4
Brunot Island CT-1A	4.0	300	0.37	0.59	10.6	6.7	4
Brunot Island CT-2A	8.0	918	0.013	0.011	1.2	1.4	2, 3
Brunot Island CT-2B	8.0	918	0.013	0.011	1.2	1.4	2, 3
Brunot Island CT-3	8.0	918	0.013	0.011	1.2	1.4	2, 3
System-Wide Averaging Plan Results					213.5	<= 249.7	
1: Certified NO _x and CO ₂ CEMs and certified exhaust gas volumetric flow rate monitor per 40 CFR 75 procedures							
2: Certified NO _x and O ₂ CEMs per 40 CFR 75 procedures							
3: Certified natural gas flow meter per 40 CFR 75 procedures							
4: Certified No. 2 fuel oil meter per 40 CFR 75 procedures plus emission rate from recent compliance stack test							

All of the RACT II requirements were included in the Brunot Island Title V Permit renewal, issued on August 26, 2019. The potential NO_x emissions in unit 1A were reduced from 330.2 to 175.0 tons/year. The potential VOC emissions in unit 1A were reduced from 14.54 to 6.54 tons/year. The potential NO_x and VOC emissions in units 2A, 2B and 3 are unchanged. Units 1B and 1C were retired as of May 12, 2014. The averaging plan is in effect unless or until ownership or operation is separated or until an application to terminate the plan and modify the respective permits is received by the Department. If the averaging plan is terminated, the units 2A, 2B and 3 will be subjected to their individual presumptive RACT II NO_x and VOC requirements and Unit 1A will comply with a <5% capacity factor and thus become exempt from presumptive RACT II NO_x and VOC requirements. The alternate requirements for Units 1, 2A, 2B and 3 in the case of the averaging plan being terminated are included in the permit. The emission limits comparing RACT I and RACT II NO_x emission limits are in table 5 below:

Table 5

Source	RACT I NO _x Emission Limits	RACT II NO _x Emission Limits
Unit 1A	0.698 lb/MMBtu; 330 tpy; 36% capacity factor	0.37 lb/MMBtu (averaged over 30 days, compliance through averaging plan); 0.698 lb/MMBtu (at all times); 175 tpy; 36% capacity factor
Combustion Turbines 2A, 2B, and 3	0.25 lb/MMBtu; 1,039 tpy (each unit);	0.013 lb/MMBtu (≥60% of full load); 0.16 lb/MMBtu (<60% of full load, averaged over 30 days, compliance through averaging plan); 51.7 tpy (each unit);

V. RACT Emissions Summary

The conditions listed in the table in Section VI of this document below supersede the relevant conditions of Plan Approval Order and Agreement No. 214, issued May 20th, 1996. The RACT II conditions are at least as stringent as those from RACT I. Other RACT I conditions not affected by RACT II remain in effect. Based on the findings in this RACT analysis, the Brunot Island facility emissions can be summarized as follows:

Table 6 RACT II NO_x Emissions Reduction Summary

NO _x Potential Emissions (tpy)		
PTE Prior to RACT II	RACT Reduction*	Revised PTE
1,152	815.3	336.7

*included removal of Units 1B and 1C

As shown in Table 6, the RACT II reduced 815.3 tons of potential NO_x emissions from the Brunot Island facility. Of that reduction, 155.2 tons were due to implementing RACT II conditions on Unit 1A and 660.1 tons were due to the retirement of Units 1B and 1C from the facility (effective May 12, 2014).

Table 7 RACT II VOC Emissions Reduction Summary

VOC Potential Emissions (tpy)		
PTE Prior to RACT II	RACT Reduction*	Revised PTE
80.2	37.1	43.1

As shown in Table 7, the RACT II reduced 37.1 tons of potential VOC emissions from the Brunot Island facility. Of that reduction, 8 tons were due to implementing RACT II conditions on Unit 1A and 29.1 tons were due to the retirement of Units 1B and 1C from the facility (effective May 12, 2014).

VI. RACT II Permit Conditions

Source ID	Description	Permit Condition 0056-I002	RACT II Regulations
	CHESWICK MAIN BOILER NO. 1, CHESWICK AUXILIARY BOILER, BRUNOT ISLAND COMBUSTION TURBINES 2A, 2B AND 3, and BRUNOT ISLAND COMBUSTION TURBINE 1A	Condition IV.22.a Condition IV.22.b Condition IV.22.c	25 PA Code §129.97 25 PA Code §129.98 25 PA Code §129.100
1A	No. 2 fuel oil-fired Simple Cycle Combustion Turbine 1A	Condition V.A.1.b Condition V.A.1.c Condition V.A.1.d Condition V.A.1.e Condition V.A.1.f Condition V.A.1.g Condition V.A.1.h Condition V.A.1.i Condition V.A.1.j Condition V.A.1.k	25 PA Code §129.99 25 PA Code §129.99 25 PA Code §129.99, 129.97(c)(7) 25 PA Code 129.97(g)(2)(IV)(B), §129.99 25 PA Code 129.97(g)(2)(IV)(D), §129.99 25 PA Code §129.99 25 PA Code 129.97(g)(2)(IV)(B), §129.99, 25 PA Code 129.97(g)(2)(IV)(D) 25 PA Code §129.98, §129.99, §129.100 25 PA Code §129.99, §129.100 25 PA Code §129.99

Source ID	Description	Permit Condition 0056-I002	RACT II Regulations
		Condition V.A.2.a Condition V.A.2.b Condition V.A.2.c Condition V.A.3.a Condition V.A.3.b Condition V.A.4.a Condition V.A.4.b Condition V.A.4.c Condition V.A.4.d Condition V.A.5.a Condition V.A.6.a	25 PA Code §129.99, §129.100 25 PA Code §129.99, §129.100 25 PA Code §129.99, §129.100 25 PA Code §129.99, §129.100 25 PA Code §129.99, §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.99
2A, 2B and 3	Natural gas-fired Combined Cycle Combustion Turbines 2A, 2B and 3	Condition V.B.1.b Condition V.B.1.c Condition V.B.1.d Condition V.B.1.e Condition V.B.1.f Condition V.B.1.g Condition V.B.1.h Condition V.B.1.i Condition V.B.2 Condition V.B.3.a Condition V.B.3.b Condition V.B.3.c Condition V.B.3.d Condition V.B.4.a Condition V.B.4.b Condition V.B.4.c Condition V.B.4.d Condition V.B.4.e Condition V.B.4.f Condition V.B.5.a Condition V.B.5.b Condition V.B.5.c Condition V.B.5.d Condition V.B.6.a Condition V.B.6.b	25 PA Code §129.99 25 PA Code §129.99 25 PA Code §129.99 25 PA Code 129.97(g)(2)(i)(A), §129.99 25 PA Code 129.97(g)(2)(i)(C) 129.97(g)(2)(i)(C), 129.97(g)(2)(i)(A), §129.99 25 PA Code §129.98, §129.99, §129.100 25 PA Code §129.99, §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.99 25 PA Code §129.99

ALLEGHENY COUNTY HEALTH DEPARTMENT

Air Quality Program

SUMMARY OF PUBLIC COMMENTS AND DEPARTMENT RESPONSES ON THE PROPOSED ISSUANCE OF BRUNOT ISLAND GENERATING STATION INSTALLATION PERMIT NO. 0056-I002

[Notice of the opportunity for public comment appeared in the legal section of the Pittsburgh Post-Gazette on January 9, 2020. The public comment period ended on February 12, 2020.]

- 1. COMMENT:** The commenter noted that a comparison of the RACT II vs RACT I requirements must be made to ensure that there is no backsliding, as per the Clean Air Act §110(l). The commenter also noted that the review memo should clearly state which RACT I conditions still apply and which units are no longer in operation.

RESPONSE: The Department has modified the review memo to remove RACT I references to units that have been retired (Units 1B and 1C effective May 12, 2014) and operating conditions that are no longer permitted (simple cycle combustion in Units 2A, 2B and 3). The Department added in a new table (no. 5) to directly compare the RACT I and RACT II emission limits for NO_x. This table clearly demonstrates that the RACT II emission limits are at least as strict as RACT I.

The applicable RACT II conditions are listed in section VI of the review memo. The RACT II conditions that supersede RACT I from the Plan Approval Order No. 214 contain dual citations in the permit.

- 2. COMMENT:** The commenter inquired how compliance with a 30-day rolling averaging plan is ensured given that Brunot Island Unit 1A does not have a CEMS installed and stack testing at Unit 1A is required once every five years. The commenter noted 25 Pa. Code §129.94, and a PADEP Guidance memo dated April 23, 2016 regarding compliance requirements for averaging plans that include units without an installed CEMS.

RESPONSE: The averaging plan proposed by GenOn calculates daily allowable and actual emissions from each source within the averaging plan to comply with the 30-day rolling averages. In the case of Brunot Island Unit 1A, which does not have an installed CEMS, monitoring and record keeping conditions in the permit for daily fuel usage are the means in which compliance with the averaging plan is achieved. Under 25 Pa. Code §129.98, §129.100 is cross-referenced relating to compliance demonstration and recordkeeping requirements.

Under 25 Pa. Code §129.100(a)(4): “For an air contamination source without a CEMS, monitoring and testing in accordance with a Department-approved emissions source test that meets the requirements of Chapter 139, Subchapter A (relating to sampling and testing methods and procedures). The source test shall be conducted one time in each 5-year calendar period.”

This interpretation was reinforced in the PADEP Guidance memo dated April 23, 2016 (see DEP response to questions 32 & 33). While more frequent stack testing and more rigorous periodic monitoring requirements are options for sources with high variability of NO_x emissions, the previous three stack tests on Unit 1A resulted in NO_x emission rates of 0.48, 0.59, and 0.60 lb/MMBtu. Coupled with Unit 1A only operating for 3 total hours in each of 2017, 2018 and 2019, there is not a strong justification for more frequent stack testing or more rigorous monitoring.

- 3. COMMENT:** The commenter noted that the averaging plan termination clause incorrectly applies the applicable requirements if the NO_x averaging plan is terminated.

RESPONSE: The Department partially agrees and partially disagrees with the comment. Condition V.A.1.d. was modified to consolidate the termination clause and corresponding conditions to condition V.A.1.j.4. Under V.A.1.j.4, if the averaging plan is terminated Unit 1A will operate at less than 5% capacity factor over any twelve-month period and follow the presumptive RACT requirement per 25 Pa. Code §129.97(c)(7) of good operating practices (added as Condition V.A.1.j.1). By retaining the RACT 1 conditions and operating at less than a 5% capacity factor, Unit 1A would be subject to both the RACT 1 requirements and the RACT 2 presumptive requirements under 25 Pa. Code §129.97(c)(7).

Condition V.B.1.i for Units 2A, 2B and 3 was modified to add in Condition V.B.1.d as an applicable requirement. With those modifications, all RACT II requirements of 25 Pa. Code §129.97 would be satisfied.

- 4. COMMENT:** The commenter noted that in addition to the RACT I requirements approved into the SIP in 2001, also in 2001, Brunot Island received a PSD permit requiring for Units 2A, 2B and 3, among other things, the use of emission controls (water injection and Selective Catalytic Reduction, SCR), restriction to natural gas only and combined cycle operating mode only, meeting a 3.5 ppmvd NO_x at 15% oxygen limit when over 60% load (rolling 3 hours), 11.8 lbs NO_x/hr per turbine (rolling 3 hour average) and 51.7 tons NO_x/year per turbine, which represented potential emissions for these units in 2001. The compliance equation (currently Equation 7 in the draft permits) must cross-reference all the other parameters that affect determining compliance for the Brunot Island and Cheswick units. Equation 7 is used to determine compliance for the NO_x averaging of 6 units at Brunot Island and Cheswick over a 30-day rolling period. Included in this equation (and the other 6 equations whose results feed into Equation 7) are heat input and operating hours.

The requirements at 25 Pa. Code §129.98(e) stipulate that if an air contamination source is subject to a more stringent numerical emission limit than the applicable allowable emission rate limitation in §129.97, the more stringent emission limit shall be used for the NO_x averaging calculation. Please discuss how and ensure that the NO_x averaging equations' calculation of allowable emissions reflect the applicable capacity and emission limit (whether expressed on an hourly, daily or annual basis) restrictions on the units whether these restrictions are RACT I or another applicable requirement. It is not acceptable for those restrictions to appear elsewhere in the permit with the expectation that facility, EPA or ACHD inspectors can independently determine how all the permit provisions impact the allowable emissions for the emission units involved in averaging.

RESPONSE: There are no applicable emission limits outside of Equation 6 that would prevent Units 2A, 2B and 3 from achieving compliance with the proposed averaging plan requirements. The (applicable RACT) limitation of 3.5 ppmvd NO_x is already contained within equation 6 for operation at or above 60% of full load. For operation less than 60% of full load, the presumptive RACT limit of 42 ppmvd NO_x applies. The limit of 11.8 lbs NO_x/hr (3-hr rolling average) is not applicable for operation at less than 60% load, as that operating condition is considered "start-up" and is exempt from the hourly limit during that period (see Operating Permit 0056 for start-up and shutdown conditions). Thus, all applicable emission limits to attaining compliance with the averaging plan are already contained within equations 6 and 7. However, the Department has added in the rolling 12-month

capacity factors of 10% for Cheswick Auxiliary Boiler and 36% for the Brunot Island Combustion Turbine 1A to condition IV.22.b.11.f) for determining allowable NO_x mass emissions.

David D. Good, Air Quality Engineer

List of Commenters

Name	Affiliation
Cynthia H. Stahl, PhD. Air Protection Division	U.S. Environmental Protection Agency Region III



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

Minor Source/Minor Modification
INSTALLATION PERMIT

Issued To: **Brunot Island Generating Station**
Brunot Island
Pittsburgh, PA

ACHD Permit#: **0056-I002**

Date of Issuance: -----

Expiration Date: (See Section III.12)

Issued By: _____
JoAnn Truchan, P.E.
Section Chief, Engineering

Prepared By: _____
David D. Good
Air Quality Engineer

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AMENDMENTS:

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

Facility Location: **Brunot Island Generating Station**
Brunot Island
Pittsburgh, PA

Permittee/Owner: **Brunot Island Power LLC**
P.O. Box 99907
Pittsburgh, PA 1533-0907

Responsible Official: **Kevin P. Panzino**
Title: Plant Manager
Company: **GenOn Power Midwest LP**
Address: Cheswick Generating Station
P.O. Box 65
Cheswick, PA 15024
Telephone Number: 724-275-1401
E-Mail Address: Kevin.Panzino@genon.com

Facility Contact: **William McGraw**
Title: Environmental and Safety Manager
Telephone Number: 724-275-1595
Mobile Number: 724-333-2310
E-mail Address: William.McGraw@genon.com

Alternate Responsible Official: **Mark Gouveia**
Title: Senior Vice President, Plant Operations
Company: GenOn Energy, Inc.
Address: Cheswick Generating Station
P.O. Box 65
Cheswick, PA 15024
Telephone Number: 301-843-4555

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

The Brunot Island Power LLC, Brunot Island Generating Station is a commercial electrical power generation facility. The source is composed of one 22 MW base rating no.2 fuel oil-fired simple cycle combustion turbine and three 63 MW base rating natural gas fired combined cycle combustion turbines. Each combined cycle turbine is equipped with a heat recovery steam generator (HRSG) that is supplied with duct burners rated at 240 MMBtu. The simple cycle combustion turbine has no emission controls and the combined cycle units are equipped with selective catalytic reduction (SCR) and water injection for NO_x control. Additional emission units consist of one 84,000 gallon per minute cooling tower, two 765,810 gallon above ground storage tanks (ASTs) for no. 2 fuel oil, and one 20,500 gallon aqueous ammonia AST. The facility is a major source of particulate matter (PM), particulate matter < 10 microns in diameter (PM₁₀), particulate matter < 2.5 microns in diameter (PM_{2.5}), nitrogen oxides (NO_x), sulfur dioxide (SO₂), and an area source of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) as defined in section 2101.20 of Article XXI.

INSTALLATION DESCRIPTION

This installation permit is for inclusion of physical and operational conditions for subject facilities pursuant to Reasonable Available Control Technology (RACT) in section 2105.06 of Article XXI. There are no new units being added to the facility as part of this permitting action.

The emission units regulated by this permit are summarized in Table II-1:

TABLE II-1: Emission Unit Identification

I.D.	SOURCE DESCRIPTION	CONTROL DEVICE(S)	MAXIMUM CAPACITY	FUEL/RAW MATERIAL	STACK I.D.
1A	Combustion Turbine in Simple Cycle Mode	None	22 MW base - 300 x 10 ⁶ btu/hr	No.2 Fuel Oil	S-007
2A	Combustion Turbine and HRSG in Combined Cycle Mode	Water injection with SCR	63 MW base - 918 x 10 ⁶ btu/hr	Natural Gas	S-001/2
2B	Combustion Turbine and HRSG in Combined Cycle Mode	Water injection with SCR	63 MW base - 918 x 10 ⁶ btu/hr	Natural Gas	S-003/4
3	Combustion Turbine and HRSG in Combined Cycle Mode	Water injection with SCR	63 MW base - 918 x 10 ⁶ btu/hr	Natural Gas	S-005/6

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 within 30 days of the end of the calendar half.
- e. Quarterly reports required by this permit shall be submitted to the Department within 30 days of the end of the calendar quarter.
- f. Reports may be emailed to the Department at aqreports@achd.net 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 insure 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. 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.

19. 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.

20. 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.

21. 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*, CFR Part 63, Subpart UUUUU – *National Emission Standards for Hazardous Air Pollutants for Coal- and Oil-Fired electric Utility Steam Generating Units*, and CFR Part 63, Subpart ZZZZ – *National Emission Standards for Stationary Reciprocating Internal Combustion Engines*.

22. NO_x Emissions Averaging Plan

- a. 25 Pa. Code §129.97 - Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule. The following Sources are included in a NO_x Averaging Plan: CHESWICK MAIN BOILER NO. 1, CHESWICK AUXILIARY BOILER, BRUNOT ISLAND COMBUSTION TURBINES 2A, 2B AND 3, and BRUNOT ISLAND COMBUSTION TURBINE 1A unless or until ownership or operation is separated or until an application to terminate the plan and modify the respective permits is received by the Department.
 - 1) The owner and operator of a source listed in one or more of subsections (b)—(h) of 25 Pa. Code §129.97 located at a major NO_x emitting facility or major VOC emitting facility subject to §129.96 (relating to applicability) shall comply with the applicable presumptive RACT requirement or RACT emission limitation, or both, beginning with the specified compliance date as follows, unless an alternative compliance schedule is submitted and approved under subsections (k)—(m) of 25 Pa. Code §129.97 or §129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule):
 - a) January 1, 2017, for a source subject to §129.96(a).

- b) January 1, 2017, or 1 year after the date the source meets the definition of a major NO_x emitting facility or major VOC emitting facility, whichever is later, for a source subject to §129.96(b).
- 2) Except as specified under subsection (c) of 25 Pa. Code §129.97, the owner and operator of a NO_x air contamination source specified in this subsection, which is located at a major NO_x emitting facility or a VOC air contamination source specified in this subsection, which is located at a major VOC emitting facility subject to §129.96 may not cause, allow or permit NO_x or VOCs to be emitted from the air contamination source in excess of the applicable presumptive RACT emission limitation:
 - a) A combustion unit or process heater:
 - i) For a natural gas-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour, 0.10 lb NO_x/million Btu heat input. [CHESWICK MAIN BOILER NO. 1]
 - ii) For a distillate oil-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour, 0.12 lb NO_x/million Btu heat input. [CHESWICK AUXILIARY BOILER]
 - iii) For a coal-fired combustion unit with a rated heat input equal to or greater than 250 million Btu/hour that is:
 - (1) A tangentially fired combustion unit, 0.35 lb NO_x/million Btu heat input. [CHESWICK MAIN BOILER NO. 1]
 - iv) For a coal-fired combustion unit with a selective catalytic reduction system operating with an inlet temperature equal to or greater than 600°F, 0.12 lb NO_x/million Btu heat input. Compliance with this emission limit is also required when by-passing the selective catalytic reduction system. [CHESWICK MAIN BOILER NO. 1]
 - b) A combustion turbine:
 - i) For a combined cycle or combined heat and power combustion turbine with a rated output equal to or greater than 1,000 bhp and less than 180 MW when firing:
 - (1) Natural gas or a noncommercial gaseous fuel, 42 ppmvd NO_x @ 15% oxygen. [BRUNOT ISLAND COMBUSTION TURBINES 2A, 2B AND 3; EQUIVALENT TO 0.155 lb/mmBtu]
 - (2) Natural gas or a noncommercial gaseous fuel, 5 ppmvd VOC (as propane) @ 15% oxygen.
 - ii) For a simple cycle or regenerative cycle combustion turbine with a rated output equal to or greater than 6,000 bhp when firing:
 - (1) Fuel oil, 96 ppmvd NO_x @ 15% oxygen. [BRUNOT ISLAND COMBUSTION TURBINE 1A; EQUIVALENT TO 0.37 lb/mmBtu]
 - (2) Fuel oil, 9 ppmvd VOC (as propane) @ 15% oxygen.

c) A unit firing multiple fuels: [CHESWICK MAIN BOILER NO. 1]

- i) The applicable RACT multiple fuel emission limit shall be determined on a total heat input fuel weighted basis using the following equation:

$$E_{HI\text{weighted}} = \frac{\sum_{i=1}^n E_i H_{II}}{\sum_{i=1}^n H_{II}} \text{ \{Equation 2\}}$$

Where:

$E_{HI\text{weighted}}$ = The heat input fuel weighted multiple fuel emission rate or emission limitation for the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.

E_i = The emission rate or emission limit for fuel i during the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.

H_{II} = The total heat input for fuel i during the compliance period.

n = The number of different fuels used during the compliance period.

- ii) A fuel representing less than 1% of the unit's annual fuel consumption on a heat input basis is excluded when determining the applicable RACT multiple fuel emission limit calculated in accordance with subparagraph (i).

- 3) The requirements and emission limitations of this section supersede the requirements and emission limitations of a RACT permit issued to the owner or operator of an air contamination source subject to one or more of subsections (b)—(h) of 25 Pa. Code §129.97 prior to April 23, 2016, under § §129.91—129.95 (relating to stationary sources of NO_x and VOCs) to control, reduce or minimize NO_x emissions or VOC emissions, or both, from the air contamination source unless the permit contains more stringent requirements or emission limitations, or both.
- 4) The requirements and emission limitations of this section supersede the requirements and emission limitations of § §129.201—129.205, 145.111—145.113 and 145.141—145.146 (relating to additional NO_x requirements; emissions of NO_x from stationary internal combustion engines; and emissions of NO_x from cement manufacturing) unless the requirements or emission limitations of § §129.201—129.205, § §145.111—145.113 or § §145.141—145.146 are more stringent.

b. 25 Pa. Code §129.98 - Facility-wide or system-wide NO_x emissions averaging plan general requirements.

- 1) The owner or operator of a major NO_x-emitting facility subject to 25 Pa. Code §129.96 (relating to applicability) that includes at least one air contamination source subject to a NO_x RACT emission limitation in 25 Pa. Code §129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) that cannot meet the applicable NO_x RACT emission limitation may elect to meet the applicable NO_x RACT emission limitation in 25 Pa. Code §129.97 by averaging NO_x

emissions on either a facility-wide or system-wide basis using a 30-day rolling average. System-wide emissions averaging must be among sources under common control of the same owner or operator within the same ozone nonattainment area in this Commonwealth. [NOTE: THE CHESWICK STATION AND THE BRUNOT ISLAND STATION ARE BOTH UNDER COMMON OWNERSHIP. THE EMISION UNITS INCLUDED IN THE SYSTEM-WIDE NO_x EMISSIONS AVERAGING PLAN ARE THE MAIN BOILER NO. 1 AND THE AUXILIARY BOILER AT CHESWICK AND COMBUSTION TURBINES 1A, 2A, 2B AND 3 AT BRUNOT ISLAND.]

- 2) The owner or operator of each facility that elects to comply with part §129.98(a) shall submit a written NO_x emissions averaging plan to the Department or appropriate approved local air pollution control agency as part of an application for an operating permit modification or a plan approval, if otherwise required. The application incorporating the requirements of this section (25 Pa. Code §129.98) shall be submitted by the applicable date as follows:
 - a) October 24, 2016, for a source subject to 25 Pa. Code §129.96(a).
 - b) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO_x emitting facility, whichever is later, for a source subject to §129.96(b).
- 3) Each NO_x air contamination source included in the application for an operating permit modification or a plan approval, if otherwise required, for averaging NO_x emissions on either a facility-wide or system-wide basis using a 30-day rolling average submitted under part §129.98(b) must be an air contamination source subject to a NO_x RACT emission limitation in 25 Pa. Code §129.97.
- 4) The application for the operating permit modification or the plan approval, if otherwise required, for averaging NO_x emissions on either a facility-wide or system-wide basis using a 30-day rolling average submitted under part §129.98(b) must demonstrate that the aggregate NO_x emissions emitted by the air contamination sources included in the facility-wide or system-wide NO_x emissions averaging plan using a 30-day rolling average are not greater than the NO_x emissions that would be emitted by the group of included sources if each source complied with the applicable NO_x RACT emission limitation in 25 Pa. Code §129.97 on a source-specific basis.
- 5) The owner or operator shall calculate the alternative facility-wide or system-wide NO_x RACT emissions limitation using a 30-day rolling average for the air contamination sources included in the application for the operating permit modification or plan approval, if otherwise required, submitted under part §129.98(b) by using the following equation to sum the emissions for all of the sources included in the NO_x emissions averaging plan:

$$\left[\sum n_i = 1(E_{i_{actual}}) \right] \leq \left[\sum n_i = 1(E_{i_{allowable}}) \right]$$

Where:

n = The number of air contamination sources included in the NO_x emissions averaging plan

$E_{i_{actual}}$ = The actual NO_x mass emissions, including emissions during startups, shutdowns and malfunctions, for air contamination source "i" on a 30-day rolling basis

$E_{i_{allowable}}$ = The allowable NO_x mass emissions computed using the allowable emission rate limitations for air contamination source "i" on a 30-day rolling basis specified in 25 Pa. Code §129.97. If an air contamination source included in an averaging plan is subject to a numerical emission rate limit that is more stringent than the applicable allowable

emission rate limitation in 25 Pa. §129.97, then the numerical emission rate limit shall be used for the calculation of the allowable NO_x mass emissions.

- 6) The application for the operating permit modification or a plan approval, if otherwise required, specified in parts §129.98(b) through §129.98(e) may include facility-wide or system-wide NO_x emissions averaging using a 30-day rolling average only for NO_x-emitting sources or NO_x-emitting facilities that are owned or operated by the applicant.
- 7) The owner or operator of an air contamination source or facility included in the facility-wide or system-wide NO_x emissions averaging plan submitted in accordance with parts §129.98(b) through §129.98(h) shall submit the reports and records specified in 25 Pa. Code §129.98(g)(3) to the Department or appropriate approved local air pollution control agency on the schedule specified in 25 Pa. Code §129.98(g)(3) to demonstrate compliance with 25 Pa. Code §129.100.
- 8) The owner or operator of an air contamination source or facility included in a facility-wide or system-wide NO_x emissions averaging plan submitted in accordance with parts §129.98(b) through §129.98(h) that achieves emission reductions in accordance with other emission limitations required under the act or the Clean Air Act, or regulations adopted under the act or the Clean Air Act, that are not NO_x RACT emission limitations may not substitute those emission reductions for the emission reductions required by the facility-wide or system-wide NO_x emissions averaging plan submitted to the Department or appropriate approved local air pollution control agency under part §129.98(b).
- 9) The owner or operator of an air contamination source subject to a NO_x RACT emission limitation in 25 Pa. Code §129.97 that is not included in a facility-wide or system-wide NO_x emissions averaging plan submitted under part §129.98(b), shall operate the source in compliance with the applicable NO_x RACT emission limitation in 25 Pa. Code §129.97.
- 10) The owner and operator of the air contamination sources included in a facility-wide or system-wide NO_x emissions averaging plan submitted under part §129.98(b) shall be liable for a violation of an applicable NO_x RACT emission limitation at each source included in the NO_x emissions averaging plan.
- 11) Calculation of the Allowable NO_x Emissions ($E_{i_{allowableM}}$)

- a) For the GenOn Cheswick Main Boiler No 1, the following equation (Equation 3) will be used to calculate Daily $E_{i_{allowableM}}$ (in lbs):

$$\text{Daily } E_{i_{allowableM}} = [\sum n_i = 1(Z)(C_1) + (X)(C_2) + (G)(C_3)] \text{ \{Equation 3\}}$$

Where:

Daily $E_{i_{allowableM}}$ = The daily allowable NO_x mass emissions for the GenOn Cheswick Main Boiler No. 1 computed using the allowable emission rate limitations for air contamination source "i" specified in 25 Pa. Code §129.97,

n = The number of operating hours in the day,

Z = 0.12 lb NO_x/mmBTU,

C₁ = The hourly heat input for coal-firing operations when SCR inlet T ≥ 600°F, expressed in units of mmBTU,

X = 0.35 lb NO_x/mmBTU,

C₂ = The hourly heat input for coal-firing operations when SCR inlet T < 600°F, expressed in units of mmBTU,

G = 0.10 lb NO_x/mmBTU,

C₃ = The hourly heat input for gas-firinig operations, expressed in units of mmBTU,

The hourly heat inputs (C₁, C₂, and C₃) shall be determined using fuel F-factors pursuant to 40 CFR Part 75, Appendix F, 40 CFR Part 60, and Appendix A, Method 19 and the data

from the certified flue gas monitor. The SCR inlet temperature shall be continuously monitored for the Main Boiler No. 1.

- b) For the Cheswick Auxiliary Boiler, the following equation (Equation 4) will be used to calculate Daily $E_{i_{allowableA}}$ (in lbs.):

$$\text{Daily } E_{i_{allowableA}} = [(Y)(FO)] \text{ \{Equation 4\}}$$

Where:

Daily $E_{i_{allowableA}}$ = The daily allowable NO_x mass emissions for the Cheswick Auxiliary Boiler computed using the allowable emission rate limitations for air contamination source "i" specified in 25 Pa. Code §129.97.,

Y = 0.12 lb NO_x/mmBTU,

FO = The daily total heat input for No. 2 Fuel Oil, expressed in units of mmBTU

- c) For the Brunot Island Combustion Turbine 1A, the following equation (Equation 5) will be used to calculate Daily $E_{i_{allowableBI1A}}$ (in lbs):

$$\text{Daily } E_{i_{allowableBI1A}} = [(W)(FO)] \text{ \{Equation 5\}}$$

Where:

Daily $E_{i_{allowableBI1A}}$ = The daily allowable NO_x mass emissions for the Brunot Island Combustion Turbine 1A computed using the allowable emission rate limitations for air contamination source "i" specified in 25 Pa. Code §129.97,

W = 0.37 lb NO_x/mmBTU (equivalent to 96 ppmvd NO_x @ 15% oxygen),

FO = The daily total heat input for No. 2 Fuel Oil, expressed in units of mmBTU,

The daily heat inputs shall be determined using fuel F-factors pursuant to 40 CFR Part 75, Appendix F, 40 CFR Part 60, Appendix A, Method 19, and fuel use records

- d) For each Brunot Island Combustion Turbines 2A, 2B & 3, the following equation (Equation 6) will be used to calculate Daily $E_{i_{allowableM}}$ (in lbs) for each turbine:

$$\text{Daily } E_{i_{allowableBI[2A,2B,3]}} = [\sum n i = 1(U)(CG_1) + (V)(G_2)] \text{ \{Equation 6\}}$$

Where:

Daily $E_{i_{allowableBI[2A,2B,3]}}$ = The daily allowable NO_x mass emissions for the Brunot Island Turbines 2A, 2B & 3 computed using the allowable emission rate limitations for air contamination source "i" specified in 25 Pa. Code §129.97,

n = The number of operating hours in the day,

U = 0.155 lb NO_x/mmBTU (Equivalent to 42 ppmvd NO_x @ 15% oxygen),

G₁ = The hourly heat input for operation when combustion turbine output is <60% load, expressed in units of mmBTU,

V = 0.013 lb NO_x/mmBTU (Equivalent to 3.5 ppmvd NO_x @ 15% oxygen),

G₂ = Hourly heat input for operation when combustion turbine output is > 60% load, expressed in units of mmBTU,

The hourly heat inputs (G₁ & G₂) shall be determined using measurements and fuel F-factors pursuant to 40 CFR Part 75, Appendix F, 40 CFR Part 60, and Appendix A, Method 19 and fuel use records.

- e) The following equation (Equation 7) will be used to calculate Daily $E_{i\text{allowable}}$:

$$\text{Daily } E_{i\text{allowable}} = \text{Daily } E_{i\text{allowable}M} + \text{Daily } E_{i\text{allowable}A} + \text{Daily } E_{i\text{allowable}BI1A} + \text{Daily } E_{i\text{allowable}BI2} + \text{Daily } E_{i\text{allowable}BI2A} + \text{Daily } E_{i\text{allowable}BI3} \text{ \{Equation 7\}}$$

- f) The 30-day rolling system-wide allowable NO_x mass emissions ($E_{i\text{allowable}}$) are calculated by summing the allowable NO_x mass emissions for the Cheswick Main Boiler No. 1, Cheswick Auxiliary Boiler, Brunot Island Combustion Turbine 1A, Brunot Island Combustion Turbine 2A, Brunot Island Combustion Turbine 2B and Brunot Island Combustion Turbine 3 for each operating day (Daily $E_{i\text{allowable}}$) and the previous 29 operating days. An operating day is a day in which any of the units in the plan combust fuel.

12) Comparison of $E_{i\text{actual}}$ to $E_{i\text{allowable}}$

- a) Beginning on January 1, 2017, the permittee shall demonstrate compliance with the alternative system-wide NO_x RACT emissions limitation using a 30-day rolling average by comparing $E_{i\text{actual}}$ to $E_{i\text{allowable}}$ for each system operating day.
- b) For each 30-day rolling period in which $E_{i\text{actual}}$ exceeds $E_{i\text{allowable}}$, the permittee shall be liable for a violation of the applicable NO_x RACT emission limitation at each of the units included in the system-wide NO_x emissions averaging plan pursuant to 25 Pa. Code §129.98(m).

c. 25 Pa. Code §129.100 – Compliance demonstration and recordkeeping requirements.

- 1) Except as provided in subsection (c) of 25 Pa. Code §129.100, the owner and operator of an air contamination source subject to a NO_x RACT requirement or RACT emission limitation or VOC RACT requirement or RACT emission limitation, or both, listed in § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation by performing the following monitoring or testing procedures:

- a) For an air contamination source with a CEMS, monitoring and testing in accordance with the requirements of Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources) using a 30-day rolling average, except municipal waste combustors.

- i) A 30-day rolling average emission rate for an air contamination source that is a combustion unit shall be expressed in pounds per million Btu and calculated in accordance with the following procedure:

- (1) Sum the total pounds of pollutant emitted from the combustion unit for the current operating day and the previous 29 operating days.
- (2) Sum the total heat input to the combustion unit in million Btu for the current operating day and the previous 29 operating days.
- (3) Divide the total number of pounds of pollutant emitted by the combustion unit for the 30 operating days by the total heat input to the combustion unit for the 30 operating days.

- ii) A 30-day rolling average emission rate for each applicable RACT emission limitation shall be calculated for an affected air contamination source for each consecutive operating day.
 - iii) Each 30-day rolling average emission rate for an affected air contamination source must include the emissions that occur during the entire operating day, including emissions from start-ups, shutdowns and malfunctions.
- b) For an air contamination source without a CEMS, monitoring and testing in accordance with a Department-approved emissions source test that meets the requirements of Chapter 139, Subchapter A (relating to sampling and testing methods and procedures). The source test shall be conducted one time in each 5-year calendar period.
- 2) Except as provided in §129.97(k) and §129.99(i) (relating to alternative RACT proposal and petition for alternative compliance schedule), the owner and operator of an air contamination source subject to subsection (a) of 25 Pa. Code §129.100 shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation in accordance with the procedures in subsection (a) of 25 Pa. Code §129.100 not later than:
 - a) January 1, 2017, for a source subject to §129.96(a) (relating to applicability).
 - b) January 1, 2017, or 1 year after the date that the source meets the definition of a major NO_x emitting facility or major VOC emitting facility, whichever is later, for a source subject to §129.96(b).
- 3) The owner and operator of an air contamination source subject to this section and § §129.96—129.99 shall keep records to demonstrate compliance with § §129.96—129.99 in the following manner:
 - a) The records must include sufficient data and calculations to demonstrate that the requirements of § §129.96—129.99 are met.
 - b) Data or information required to determine compliance shall be recorded and maintained in a time frame consistent with the averaging period of the requirement.
- 4) The records shall be retained by the owner or operator for 5 years and made available to the Department or appropriate approved local air pollution control agency upon receipt of a written request from the Department or appropriate approved local air pollution control agency.
- 5) The permittee shall submit quarterly RACT system-wide NO_x emissions averaging reports to the Department or appropriate approved local air pollution control agency. The permittee shall also submit a copy of each quarterly RACT system-wide NO_x emissions averaging report described in this operating permit condition along with the quarterly CEMS reports. The permittee's demonstration of compliance with the system-wide NO_x emissions limit shall be included in the quarterly RACT system-wide NO_x emissions averaging report.
- 6) The quarterly RACT system-wide NO_x emissions averaging reports shall be submitted according to the following schedule:
 - a) The quarterly report for the period of January 1 - March 31 is due no later than April 30.
 - b) The quarterly report for the period of April 1 - June 30 is due no later than July 30.

- c) The quarterly report for the period of July 1 - September 30 is due no later than October 30.
- d) The quarterly report for the period of October 1 - December 31 is due no later than January 30.
- e) The permittee may request, in writing, an extension of time from the Department or appropriate approved local air pollution control agency for the filing of a quarterly RACT systemwide NO_x emissions averaging report specified in part (a) of 25 Pa. Code §129.100, and the Department or appropriate approved local air pollution control agency may grant, in writing, the extension for reasonable cause.

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V. EMISSION UNIT LEVEL TERMS AND CONDITIONS

A. Combustion Turbine 1A

Process Description: Simple Cycle Combustion Turbine
Facility ID: 1A
Maximum Design Rate: 300 MMBtu/hr
Fuel(s): No. 2 Fuel Oil
Control Device(s): None

1. Restrictions:

- a. The permittee shall continue to meet the conditions of Operating Permit No. 0056, in addition to the revisions in this permit. [§2102.04.b.5]
- b. Only no.2 fuel oil with a maximum sulfur content of 0.2% shall be combusted in the combustion turbine. (§2103.12.a.2.B, 25 Pa. Code §129.99)
- c. The combustion turbine shall be operated in simple cycle mode only. (§2103.12.a.2.B, 25 Pa. Code §129.99)
- d. The maximum allowable capacity factor shall not exceed 36% in any consecutive twelve months. If the NO_x Averaging Plan described in Condition IV.22 above is terminated by ownership transfer or permit application to terminate the plan, the following limitation applies to the Combustion Turbine. (RACT Order No. 214, condition 1.4, 25 Pa. Code §129.99, 25 Pa. Code §129.97(c)(7))
 - 1) The capacity factor of combustion turbine may not exceed 5% in any consecutive 12-month period. The capacity factor is the ratio of total net electrical power generation [in units of Megawatt-hours (MWH)] for the last twelve (12) months to the Maximum Capacity of the generator [in units of Megawatts (MW)] for the same 12-month period as expressed in the following formula:

$$\frac{[12\text{-month rolling power generation for all units (in MWH)]} \times 100}{[\text{Maximum electrical capacity (in MW)}] \times 8760 \text{ hrs}}$$
- e. Emissions of nitrogen oxides from unit 1A shall not exceed 96 ppmvd @ 15% oxygen (0.370 lb/MMBtu). (25 Pa. Code §129.97(g)(2)(iv)(B), 25 Pa. Code §129.99)
- f. Emissions of volatile organic compounds from unit 1A shall not exceed 9 ppmvd (as propane) @ 15% oxygen. (25 Pa. Code §129.97(g)(2)(iv)(D))
- g. Fuel oil combustion in unit 1A shall not exceed 2,200 gallons/hr or 6,937,920 gallons per consecutive twelve-month period. (§2103.12.a.2.B, 25 Pa. Code §129.99)
- h. The emissions due to operation of the simple cycle turbine 1A shall not exceed the following emission limitations: (25 Pa. Code §129.97(g)(2)(i)(B), 25 Pa. Code §129.97(g)(2)(iv)(D)), 25 Pa. Code §129.99, §2103.12.a.2.B)

TABLE V-A-1: Unit 1A Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year) ¹
Nitrogen Oxides	110 ⁽²⁾	175.0
Volatile Organic Compounds	4.1	6.54

1) A year is defined as any consecutive 12-month period.

2) 30-day rolling average

- i. Compliance with the nitrogen oxides emission limitations of V.A.1.e above shall be determined through following the NO_x Emissions Averaging Plan requirements in Condition IV.22 above. (25 Pa. Code §129.98; 25 Pa. Code §129.99; 25 Pa. Code §129.100)

- j. If the NO_x Averaging Plan described in Condition IV.22 above is terminated by ownership transfer or permit application to terminate the plan, the limits in V.A.1.e, V.A.1.f, and V.A.1.h above are replaced by the following: (RACT Order No. 214, condition 1.4; Operating permit no. 1065009-000-23600; 25 Pa. Code §129.99, 25 Pa. Code §129.100, §2103.12.a.2.B):

- 1) Emissions of nitrogen oxides from each unit shall not exceed 0.698 lb/MMBtu.
- 2) Emissions of volatile organic compounds from each unit shall not exceed 0.002% of stack gas volume.

TABLE V-A-1a: Unit 1A Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year) ¹
Nitrogen Oxides	209.4	45.9
Volatile Organic Compounds	9.22	2.0

1) A year is defined as any consecutive 12-month period.

- k. Emissions of nitrogen oxides from unit 1A shall not exceed 0.698 lb/MMBtu. (RACT Order No. 214, condition 1.4, 25 Pa. Code §129.99)

2. Testing Requirements:

- a. NO_x emissions testing shall be conducted within six (6) months following any consecutive twelve (12) month period where the combined average capacity factor of all units operating in simple cycle combustion mode is greater than 3.5%. The subsequent tests shall be conducted on Unit 1A operating in simple cycle mode according to U.S. EPA approved reference test methods 6C and 7E, or other method approved by the Department, and Site Level Condition IV.14 above. (RACT Order No. 214, condition 1.6, §2103.12.a.2.B, Pa. Code §129.99; 25 Pa. Code §129.100)
- b. NO_x emissions testing on the unit shall be performed at least once every five (5) years. (§2103.12.h.1, Pa. Code §129.99; 25 Pa. Code §129.100)

- c. 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, Pa. Code §129.99; 25 Pa. Code §129.100)

3. Monitoring Requirements:

- a. The permittee shall monitor the sulfur content of the fuel oil used in unit 1A each time the fuel oil is transferred into storage tanks T-001 and T-002. Sulfur content shall be determined by ASTM D 2880-71 or another method approved by the Department. Analyses by the fuel supplier of the fuel as received, using the proscribed test methods, shall be acceptable to fulfill this requirement. (§2103.12.a.2.B; RACT Order No. 214, condition 1.6, Pa. Code §129.99; 25 Pa. Code §129.100)
- b. The permittee shall install, operate, and maintain a fuel flow monitor to measure the fuel combusted by the combustion turbine. (§2103.12.a.2.B, Pa. Code §129.99; 25 Pa. Code §129.100)

4. Record Keeping Requirements:

- a. The permittee shall record fuel usage and fuel analysis data for Unit 1A while operating in SCC mode. (RACT Order No. 214, condition 1.6 §2103.12.j, 25 Pa. Code §129.100)
- b. The permittee shall keep and maintain the following data for the combustion turbine: (§2103.12.j, 25 Pa. Code §129.100)
 - 1) Fuel consumption, fuel sulfur content and hours of operation (daily, monthly, 12-month);
 - 2) The date, time, cause and the action taken to correct any malfunction (upon occurrence, monthly);
 - 3) The start-up and shutdown of the combustion turbine, including date, time and duration of each event (upon occurrence, monthly);
 - 4) Records of fuel analyses required by Condition V.A.3.a above (each shipment);
 - 5) Manufacturers specifications for the combustion turbines, duct burners and air pollution control equipment onsite;
 - 6) Records of operation, maintenance, inspection, calibration and/or replacement of combustion and control equipment;
 - 7) Stack test protocols and reports;
 - 8) Net Generation in Megawatt-hours (MWH)
- 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.h.1, 25 Pa. Code §129.100)
- d. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [§2103.12.j.2, 25 Pa. Code §129.100]

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, 25 Pa. Code §129.100)
 - 1) Monthly data required to be recorded by condition V.A.4.b above;

- 2) Rolling 12-month total emissions for nitrogen oxides;
 - 3) Rolling twelve-month heat input totals for each combustion turbine, and
 - 4) Non-compliance information required to be recorded by condition V.A.4.c above.
- b. 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 at all times properly operate and maintain all process and emission control equipment at the facility according to good engineering practice. (RACT Order No. 214, condition 1.10, 25 Pa. Code §129.99)

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B. Combustion Turbines 2A, 2B & 3

Process Description: Three GE 7000B (678 MMBtu/hr) Combustion Turbines (name plate ratings of 63 MW base), each with 240 MMBtu/hr HRSGs
Facility ID: Units 2A, 2B & 3
Capacity: 918 MMBtu/hr per unit (Combustion Turbine and HRSG)
Fuel: Natural gas
Control Device: Water injection with SCR

1. Restrictions:

- a. The permittee shall continue to meet the conditions of Operating Permit No. 0056, in addition to the revisions in this permit. [§2102.04.b.5]
- b. Only pipeline natural gas shall be combusted in the combustion turbines and HRSGs. (Installation Permit #0056-I001c, condition V.A.1.a; §2102.04.b.6, 25 Pa. Code §129.99)
- c. Heat input to each HRSG duct burner shall be limited to 240 MMBtu/hr. (Installation Permit #0056-I001c, condition V.A.1.b; §2102.04.b.6, 25 Pa. Code §129.99)
- d. Nitrogen oxides emissions shall not exceed 3.5 ppm_{vd} @ 15% O₂ during any three hour time period at or above 60% of full load. Each hour of the 3-hour time period shall be a clock hour. (Installation Permit #0056-I001c, condition V.A.1.c; §2102.04.b.6, 25 Pa. Code §129.99)
- e. Emissions of nitrogen oxides from each unit shall not exceed 42 ppmvd @ 15% oxygen. (25 Pa. Code §129.97(g)(2)(i)(A), 25 Pa. Code §129.99)
- f. Emissions of volatile organic compounds from each unit shall not exceed 5 ppmvd (as propane) @ 15% oxygen. (25 Pa. Code §129.97(g)(2)(i)(C))
- g. Emissions due to operation of each combined cycle turbine 2A, 2B & 3 shall not exceed the following limitations: (Installation Permit #0056-I001c, condition V.A.1.i; §2102.04.b.6; 25 Pa. Code §129.97(g)(2)(i)(A), 25 Pa. Code §129.99)

TABLE V-B-1: Units 2A, 2B and 3 Emission Limitations (Each Unit)

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year) ¹
Nitrogen Oxides	11.8 ²	51.7
Volatile Organic Compounds	3.0 ³ /6.0 ⁴	12

(1) A year is defined as any 12 consecutive months.

(2) Rolling 3-hour average

(3) Emissions at 90-100% full load

(4) Emissions at less than 90% full load

- h. Compliance with the nitrogen oxides emission limitations of V.B.1.e above shall be determined through following the NO_x Emissions Averaging Plan requirements in Condition IV.22 above. (25 Pa. Code §129.98; 25 Pa. Code §129.99; 25 Pa. Code §129.100)
- i. If the NO_x Averaging Plan described in Condition IV.22 above is terminated by ownership transfer or permit application to terminate the plan, the 25 Pa. Code §129 applicable NO_x emission limitations of V.B.1.e and V.B.1.g above shall be demonstrated for each emissions unit individually (25 Pa. Code §129.99; 25 Pa. Code §129.100).

2. Testing Requirements:

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, 25 Pa. Code §129.100)

3. Monitoring Requirements:

- a. The permittee shall install, operate and maintain continuous emission monitors for nitrogen oxides, oxygen and carbon monoxide on each unit. (Installation Permit #0056-I001c, condition V.A.3.a; §2108.03.a., b., and c., 25 Pa. Code §129.100)
- b. Continuous emission monitoring systems for exhaust gas flow (or the fuel flow monitors specified by V.B.3.c below), nitrogen oxides, carbon monoxide (CO) and oxygen (O₂) shall be approved by the Department and installed, operated and maintained in accordance with the requirements of 25 Pa Code Chapter 139 and Article XXI, §2108.03. (Installation Permit #0056-I001c, condition V.A.3.b, 25 Pa. Code §129.100)
 - 1) No continuous emission monitoring system shall be considered to meet the requirements of this permit unless such system has been approved by the Department in writing. At least 45 days prior to installing any such system, or at such other times as is specified in an applicable order or permit condition, the person responsible for the affected source shall make written application to the Department for the approval of such system, which application shall include a thorough description of the system, the location where such system will be installed, a program for periodic calibration, zero and span drift checks and other quality assurance procedures and all other information needed by the Department to evaluate such system. The Department shall make its evaluation in accordance with all relevant guidelines, including the performance specifications and other requirements of Appendix P of 40 CFR Part 51 and Appendix B of 40 CFR Part 60, including all modifications to such appendices as may hereafter be made by the EPA. (Installation Permit #0056-I001c, condition V.A.3.b.2); §2108.03.e.)
 - 2) Failure to install and operate any continuous emissions monitoring system required by this permit or by an order, within the time specified, the failure to retain any data or submit any report so required, or the knowing retention or reporting of false data shall be a violation of this permit giving rise to the remedies provided by Article §2109.02. (Installation Permit #0056-I001c, condition V.A.3.b.3); §2108.03.f.)
- c. Continuous fuel flow monitors shall be installed and maintained in accordance with 40 CFR Part 75 Appendix D Chapter 2.1. (Installation Permit #0056-I001c, condition V.A.3.c, 25 Pa. Code §129.100)

- d. The following parameters shall be monitored for each SCR: (Installation Permit #0056-I001c, condition V.A.3.e; §2103.12.j & k, 25 Pa. Code §129.100)
 - 1) Catalytic bed inlet gas temperature (at least once every 15 minutes);
 - 2) Ammonia solution injection rate. (at least once every 15 minutes); and
 - 3) Ammonia solution concentration.

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data for units 2A, 2B & 3: (Installation Permit #0056-I001c, conditions V.A.4 b, c, d, e, f & g, §2103.12.a.2.B, §2103.12.j.2, 25 Pa. Code §129.100)
 - 1) Hourly fuel consumption and hours of operation (monthly total fuel, 12-month rolling totals);
 - 2) Emissions for the following pollutants: nitrogen oxides (monthly total emissions, 12-month rolling totals);
 - 3) The date, time, cause and the action taken to correct any malfunction (upon occurrence, monthly) ;
 - 4) Manufacturer's specifications for all CEMs that are required by this permit (maintained on site);
 - 5) Manufacturer's specifications for the combustion turbines, duct burners and air pollution control equipment (maintained on site);
 - 6) Records of operation (including parameters required to be monitored in Condition V.B.3.d above), maintenance, inspection, calibration and/or replacement of combustion and control equipment; and
 - 7) Stack test protocols and reports.
- b. The permittee shall keep and maintain records sufficient to demonstrate compliance with the annual limits for the 3-hour NO_x emission limitation in Conditions V.B.1.d and V.B.1.g above. (Installation Permit #0056-I001c, condition V.A.4.h, §2103.12.j.2, 25 Pa. Code §129.100)
- c. The permittee shall keep and maintain all records required by 40 CFR Parts 72 through 78. (Installation Permit #0056-I001c, condition V.A.4.i, 25 Pa. Code §129.100)
- d. 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 and/or electronic data for continuous monitoring instrumentation, and copies of all reports required by this permit. (Installation Permit #0056-I001c, condition V.A.4.b & V.A.4.j; §2103.12.j.2, 25 Pa. Code §129.100)
- e. 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.h.1, 25 Pa. Code §129.100)
- f. 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, 25 Pa. Code §129.100)

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department in 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, Installation Permit #0056-I001c, condition V.A.5.a, 25 Pa. Code §129.100)
 - 1) Monthly data required to be recorded by condition V.B.4.a above;
 - 2) Rolling 12-month total emissions for nitrogen oxides, carbon monoxide, and sulfur oxides; and
 - 3) Non-compliance information required to be recorded by condition V.B.4.e above.
- b. The permittee shall report exceedances to the Department in accordance with 40 CFR Part 77 Excess Emissions reporting requirements. (Installation Permit #0056-I001c, condition V.A.5.b, 25 Pa. Code §129.100)
- c. The permittee shall report emissions to the Department in accordance with 40 CFR Part 75 Continuous Emission Monitoring reporting requirements. (Installation Permit #0056-I001c, condition V.A.5.b, 25 Pa. Code §129.100)
- d. Condition V.B.5.c above can be met by submitting quarterly reports to the U.S. EPA Clean Air Markets Division, as per 40 CFR Part 75. (40 CFR Part 75, 25 Pa. Code §129.100)
- e. 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 Units 2A, 2B, and 3 and the associated control equipment and monitoring instrumentation in accordance with the manufacturer's specifications and good air pollution control practice. (Installation Permit #0056-I001c, condition V.A.3.f, 25 Pa. Code §129.99)
- b. The permittee shall at all times properly operate and maintain all process and emission control equipment at the facility according to good engineering practice. (25 Pa. Code §129.99)

VI. ALTERNATIVE OPERATING SCENARIOS

No alternative operating scenarios exist for this operation.

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VII. EMISSIONS LIMITATIONS SUMMARY

The following tables summarize the estimated annual maximum potential emissions (which may not include fugitive) from the Brunot Island Units 1A, 2A, 2B and 3. These annual (consecutive 12 month) potential emission estimates assume that all sources operate continuously according to their permitted operating limitations.

TABLE VII-1: Emission Limitations Summary With Averaging Plan

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Nitrogen Oxides (NO _x)	330.1
Volatile Organic Compounds (VOC)	42.5

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

TABLE VII-1a: Emission Limitations Summary Without Averaging Plan

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Nitrogen Oxides (NO _x)	201
Volatile Organic Compounds (VOC)	38.0

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

ALLEGHENY COUNTY HEALTH DEPARTMENT AIR QUALITY PROGRAM

January 8, 2020

SUBJECT: Reasonable Available Control Technology (RACT II) Determination
Brunot Island Generating Station
Brunot Island
Pittsburgh, PA
Allegheny County

Title V Installation Permit No. 0056-I002

TO: JoAnn Truchan, P.E.
Section Chief, Engineering

FROM: David D. Good
Air Quality Engineer

I. Executive Summary

The Brunot Island Generating Station (Brunot Island) is defined as a major source of NO_x and VOC emissions and was subjected to a Reasonable Available Control Technology II (RACT II) review by the Allegheny County Health Department (ACHD) required for the 1997 and 2008 Ozone National Ambient Air Quality Standard (NAAQS). The findings of the review established that technically and financially feasible RACT would result in the following emissions changes, summarized below.

Table 1 Technically and Financially Feasible Control Options Summary for NO_x and VOC

The Permittee has elected to enter into a system-wide NO_x emissions averaging plan with the Cheswick Generating Station, as per 25 PA Code §129.98. The following Sources are included in a NO_x Averaging Plan: CHESWICK MAIN BOILER NO. 1, CHESWICK AUXILIARY BOILER, BRUNOT ISLAND COMBUSTION TURBINES 2A, 2B AND 3, and BRUNOT ISLAND COMBUSTION TURBINE 1A unless or until ownership or operation is separated or until an application to terminate the plan and modify the respective permits is received by the Department.

Brunot Island Units 1A, 2A, 2B and 3 shall all meet the 25 PA Code 25 PA Code §129.97 Presumptive RACT II requirements for VOC emissions.

II. Regulatory Basis

ACHD requested all major sources of NO_x (potential emissions of 100 tons per year or greater) and all major sources of VOC (potential emissions of 50 tons per year or greater) to reevaluate NO_x and/or VOC RACT for incorporation into Allegheny County's portion of the PA SIP. The non-exempt sources at Brunot Island (Combustion Turbines, 1A, 2A, 2B and 3) are subject to presumptive RACT requirements. The facility has requested that these 4 units along with Main Boiler No. 1 and the Auxiliary Boiler from the Cheswick Generating Station be added into a system-wide NO_x emissions averaging plan, as per 25 Pa Code 129.98. This document is the result of ACHD's determination of RACT for these four emission sources at Brunot Island based on the materials submitted by the subject source and other relevant information.

III. Facility Description, Existing RACT I and Sources of NO_x

The Brunot Island Generating Station is a commercial electrical power generation facility. The source is composed of one 22 MW base rating no.2 fuel oil-fired simple cycle combustion turbine and three 63 MW base rating natural gas fired combined cycle combustion turbines. Each combined cycle turbine is equipped with a heat recovery steam generator (HRSG) that is supplied with duct burners rated at 240 MMBtu. The simple cycle combustion turbine has no emission controls and the combined cycle units are equipped with selective catalytic reduction (SCR) and water injection for NO_x control. Brunot Island is a major source of NO_x emissions.

On May 20th, 1996 the facility entered into a consent decree with the Department to meet RACT I obligations under RACT Order No. 214. RACT Order 214 was approved as RACT by EPA in 2001 (66 FR 52867). The RACT I requirements are listed in Table 2 below:

Table 2 **RACT I Summary**

Source	RACT Order 214 Condition No.	RACT I Requirement
Combustion Turbine 2A, 2B, 3	I.1.1	At no time shall the permittee operate units 2A, 2B or 3 in combined combustion cycle (hereafter referred to as CCC) mode at the facility without properly installed and operating water/steam injection NO _x control system in place at these units.
Combustion Turbine 2A, 2B, 3	I.1.2	At no time shall the permittee operate units 2A, 2B or 3 in CCC mode at the facility without properly installed and operating NO _x CEMS.
Combustion Turbine 2A, 2B, 3	I.1.3	At no time shall the permittee operate units 2A, 2B or 3, when operating in CCC mode, to exceed the following NO _x emissions limitations and annual average capacity limitations: 0.25 lbs/MMBtu, 1,039 tons/year, 100% Maximum Annual Capacity Factor. The Permittee shall determine compliance with the lb/MMBtu emission limitations for CCC mode of operation by using CEMS data averaged over a twenty-four (24) hour period and tons per year emission limitations by using CEMS data.
Units 1A, 1B, 1C, 2A, 2B and 3 {Note: Unit 1B and 1C are no longer in operation}	I.1.4	At no time shall the permittee allow units 1A, 1B, 1C, 2A, 2B or 3 to exceed the following NO _x emissions limitations and annual average capacity limitations when operating in Simple Combustion Cycle (SCC) mode (Unit; lbs/MMBtu; TPY; Maximum Annual Capacity Factor): <ul style="list-style-type: none">- 1A; 0.698 lb/MMBtu; 330 tpy; 36%- 1B; 0.698 lb/MMBtu; 330 tpy; 36%- 1C; 0.698 lb/MMBtu; 330 tpy; 36%- 2A; 0.698 lb/MMBtu; 662 tpy; 23%- 2B; 0.698 lb/MMBtu; 662 tpy; 23%- 3; 0.698 lb/MMBtu; 662 tpy; 23%
Units 1A, 1B, 1C, 2A, 2B and 3 {Note: Unit 1B and 1C are no longer in operation}	I.1.5	The permittee shall conduct initial NO _x emission tests while operating in SCC mode.
Units 1A, 1B, 1C, 2A, 2B and 3	I.1.6	The permittee shall record fuel usage and fuel analyses data in order to determine compliance with the established NO _x emission limitations while operating in SCC Mode. Subsequent NO _x emission tests shall be conducted within six (6) months following any

{Note: Unit 1B and 1C are no longer in operation}		consecutive twelve (12) month period where the consecutive twelve (12) month combined average capacity factor for all units operating in SCC mode is greater than 3.5%.
Units 1A, 1B, 1C, 2A, 2B and 3 {Note: Unit 1B and 1C are no longer in operation}	I.1.7	The Department reserves the right to issue amended NO _x lbs/MMBtu and tons per year emission limitations and annual capacity limitations for CCC mode of operation for the facility upon analysis of actual CEM data for SCC mode of operation upon analysis of initial emission test data from the facility.
Units 1A, 1B, 1C, 2A, 2B and 3 {Note: Unit 1B and 1C are no longer in operation}	I.1.8	The permittee shall maintain all appropriate records to demonstrate compliance with the requirements of both Section 2105.06 of Article XXI and this Order.
Units 1A, 1B, 1C, 2A, 2B and 3 {Note: Unit 1B and 1C are no longer in operation}	I.1.9	The permittee shall retain all records required by both Section 2105.06 of Article XXI and this Order for this facility for at least two (2) years and shall make the same available to the Department upon request.
Units 1A, 1B, 1C, 2A, 2B and 3 {Note: Unit 1B and 1C are no longer in operation}	I.1.10	The permittee shall at all times properly operate and maintain all process and emission control equipment at the facility according to good engineering practice.

Table 3	Facility Sources Subject to Case-by-Case RACT II and Their Existing RACT I Limits
The Permittee has elected to enter into a system-wide NO _x emissions averaging plan with the Brunot Island Generating Station, as per 25 PA Code §129.98. The following Sources are included in a NO _x Averaging Plan: CHESWICK MAIN BOILER NO. 1, CHESWICK AUXILIARY BOILER, BRUNOT ISLAND COMBUSTION TURBINES 2A, 2B AND 3, and BRUNOT ISLAND COMBUSTION TURBINE 1A unless or until ownership or operation is separated or until an application to terminate the plan and modify the respective permits is received by the Department.	

Table 4 Facility Sources Subject to the Presumptive RACT II per PA Code 129.97

Source ID	Description	Rating	NO_x PTE (TPY)	VOC PTE (TPY)	Basis for Presumptive	Presumptive RACT Requirement (25 Pa Code Section 129.97)
1A	No. 2 fuel oil-fired Simple Cycle Combustion Turbine	300 MMBtu/hr	330.2	14.54	129.97(g)(2)(IV)(B) 129.97(g)(2)(IV)(D)	Emissions of nitrogen oxides from unit 1A shall not exceed 96 ppmvd @ 15% oxygen (0.370 lb/MMBtu). Emissions of volatile organic compounds from unit 1A shall not exceed 9 ppmvd (as propane) @ 15% oxygen.
2A, 2B & 3	Natural gas-fired Combined Cycle Combustion Turbines	678 MMBtu/hr (each unit) w/ 240 MMBtu/hr HRSG (each unit)	51.7 (each unit)	12.0 (each unit)	129.97(g)(2)(i)(A) 129.97(g)(2)(i)(C)	Emissions of nitrogen oxides from unit 2A, 2B and 3 shall not exceed 42 ppmvd @ 15% oxygen. Emissions of volatile organic compounds from unit 2A, 2B and 3 shall not exceed 5 ppmvd (as propane) @ 15% oxygen.
1A-DS	Diesel Starter Engine	3.4 MMBtu/hr	4.4	0.4	129.97(c)	The permittee shall install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices.
FP1	Diesel Fire Pump	2.1 MMBtu/hr	2.2	0.2	129.97(c)	The permittee shall install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices.

IV. RACT Determination

Unit 1A at Brunot Island is not able to meet the Presumptive NO_x Requirements per PA Code 129.97(g)(2)(IV)(B). Unit 1A is able to meet the Presumptive VOC Requirements per PA Code 129.97(g)(2)(IV)(D). Units 2A, 2B and 3 are all able to meet the Presumptive NO_x and VOC Requirements. The permittee submitted an official request to establish a NO_x Averaging Plan on September 23, 2016 to include the following sources beginning January 1, 2017: CHESWICK MAIN BOILER NO. 1, CHESWICK AUXILIARY BOILER, BRUNOT ISLAND COMBUSTION TURBINES 2A, 2B AND 3, and BRUNOT ISLAND COMBUSTION TURBINE 1A. The request satisfied the requirements promulgated under 25 Pa. Code §§129.96 - 129.100: Additional RACT Requirements for Major Sources of NO_x and VOCs ("RACT II Rule"). The averaging plan requires that the permittee calculate a rolling 30-day average compliance limit and compare that limit with actual NO_x emissions for the last 30 days for which any unit in the plan operates. Per Pa Code §129.98, actual and allowable emissions are totaled as NO_x mass and compared as illustrated below.

$$\sum_{i=1}^n Ei_{actual} \leq \sum_{i=1}^n Ei_{allowable}$$

Where,

E_{iactual} = The actual NO_x mass emissions, including emissions during start-ups, shutdowns and malfunctions, for air contamination source *i* on a 30-day rolling basis.

E_{iallowable} = The allowable NO_x mass emissions computed using the allowable emission rate limitations for air contamination source *i* on a 30-day rolling basis specified in § 129.97. If an air contamination source included in an averaging plan is subject to a numerical emission rate limit that is more stringent than the applicable allowable emission rate limitation in § 129.97, then the numerical emission rate limit shall be used for the calculation of the allowable NO_x mass emissions.

n = The number of air contamination sources included in the NO_x emissions averaging plan.

The Permittee generates daily reports to assure compliant operations and reports the results, including emissions unit data to the Department on a quarterly basis. A sample calculation to help illustrate how the averaging plan works in practice is shown below:

NO _x Emissions System-Wide Averaging Plan Example (all units operating at rated heat input)							
Unit	Daily Operating Hours	Rated Heat Input	Applicable Averaging Plan Limit	Over a Rolling 30-Calendar Day Period			
	(hrs)	(MMBtu/hr)	(lb/MMBtu)	Actual Rate (lb/MMBtu)	Actual NO _x Mass tons	Allowable NO _x Mass tons	Monitoring and Recordkeeping Procedures
Cheswick Boiler No. 1	24.0	5500	0.12	0.10	198.0	237.6	1, 3
Cheswick Auxiliary Boiler	4.0	160	0.12	0.13	1.2	1.2	4
Brunot Island CT-1A	4.0	300	0.37	0.59	10.6	6.7	4
Brunot Island CT-2A	8.0	918	0.013	0.011	1.2	1.4	2, 3
Brunot Island CT-2B	8.0	918	0.013	0.011	1.2	1.4	2, 3
Brunot Island CT-3	8.0	918	0.013	0.011	1.2	1.4	2, 3
System-Wide Averaging Plan Results					213.5	≤ 249.7	
1: Certified NO _x and CO ₂ CEMs and certified exhaust gas volumetric flow rate monitor per 40 CFR 75 procedures							
2: Certified NO _x and O ₂ CEMs per 40 CFR 75 procedures							
3: Certified natural gas flow meter per 40 CFR 75 procedures							
4: Certified No. 2 fuel oil meter per 40 CFR 75 procedures plus emission rate from recent compliance stack test							

All of the RACT II requirements were included in the Brunot Island Title V Permit renewal, issued on August 26, 2019. The potential NO_x emissions in unit 1A were reduced from 330.2 to 175.0 tons/year. The potential VOC emissions in unit 1A were reduced from 14.54 to 6.54 tons/year. The potential NO_x and VOC emissions in units 2A, 2B and 3 are unchanged. Units 1B and 1C were retired as of May 12, 2014. The averaging plan is in effect

unless or until ownership or operation is separated or until an application to terminate the plan and modify the respective permits is received by the Department. If the averaging plan is terminated, the units 2A, 2B and 3 will be subjected to their individual presumptive RACT II NO_x and VOC requirements and Unit 1A will comply with a 5% capacity factor and thus become exempt from presumptive RACT II NO_x and VOC requirements. The alternate requirements for Units 1, 2A, 2B and 3 in the case of the averaging plan being terminated are included in the permit.

V. RACT Emissions Summary

The conditions listed in the table in Section VI of this document below supersede the relevant conditions of Plan Approval Order and Agreement No. 214, issued May 20th, 1996. The RACT II conditions are at least as stringent as those from RACT I. Other RACT I conditions not affected by RACT II remain in effect. Based on the findings in this RACT analysis, the Brunot Island facility emissions can be summarized as follows:

Table 5 RACT II NO_x Emissions Reduction Summary

NO _x Potential Emissions (tpy)		
PTE Prior to RACT II	RACT Reduction*	Revised PTE
1,152	815.3	336.7

*included removal of Units 1B and 1C

As shown in Table 5, the RACT II reduced 815.3 tons of potential NO_x emissions from the Brunot Island facility. Of that reduction, 155.2 tons were due to implementing RACT II conditions on Unit 1A and 660.1 tons were due to the retirement of Units 1B and 1C from the facility (effective May 12, 2014).

Table 6 RACT II VOC Emissions Reduction Summary

VOC Potential Emissions (tpy)		
PTE Prior to RACT II	RACT Reduction*	Revised PTE
80.2	37.1	43.1

As shown in Table 6, the RACT II reduced 37.1 tons of potential VOC emissions from the Brunot Island facility. Of that reduction, 8 tons were due to implementing RACT II conditions on Unit 1A and 29.1 tons were due to the retirement of Units 1B and 1C from the facility (effective May 12, 2014).

VI. RACT II Permit Conditions

Source ID	Description	Permit Condition 0056-1002	RACT II Regulations
	CHESWICK MAIN BOILER NO. 1, CHESWICK AUXILIARY BOILER, BRUNOT ISLAND COMBUSTION TURBINES 2A, 2B AND 3, and BRUNOT ISLAND COMBUSTION TURBINE 1A	Condition IV.22.a Condition IV.22.b Condition IV.22.c	25 PA Code §129.97 25 PA Code §129.98 25 PA Code §129.100
1A	No. 2 fuel oil-fired Simple Cycle Combustion Turbine 1A	Condition V.A.1.b Condition V.A.1.c Condition V.A.1.d	25 PA Code §129.99 25 PA Code §129.99 25 PA Code §129.99, 129.97(c)(7)

Source ID	Description	Permit Condition 0056-I002	RACT II Regulations
		Condition V.A.1.e Condition V.A.1.f Condition V.A.1.g Condition V.A.1.h Condition V.A.1.i Condition V.A.1.j Condition V.A.1.k Condition V.A.2.a Condition V.A.2.b Condition V.A.2.c Condition V.A.3.a Condition V.A.3.b Condition V.A.4.a Condition V.A.4.b Condition V.A.4.c Condition V.A.4.d Condition V.A.5.a Condition V.A.6.a	25 PA Code 129.97(g)(2)(IV)(B), §129.99 25 PA Code 129.97(g)(2)(IV)(D), §129.99 25 PA Code §129.99 25 PA Code 129.97(g)(2)(IV)(B), §129.99, 25 PA Code 129.97(g)(2)(IV)(D) 25 PA Code §129.98, §129.99, §129.100 25 PA Code §129.99, §129.100 25 PA Code §129.99 25 PA Code §129.99, §129.100 25 PA Code §129.99, §129.100 25 PA Code §129.99, §129.100 25 PA Code §129.99, §129.100 25 PA Code §129.99, §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.99
2A, 2B and 3	Natural gas-fired Combined Cycle Combustion Turbines 2A, 2B and 3	Condition V.B.1.b Condition V.B.1.c Condition V.B.1.d Condition V.B.1.e Condition V.B.1.f Condition V.B.1.g Condition V.B.1.h Condition V.B.1.i Condition V.B.2 Condition V.B.3.a Condition V.B.3.b Condition V.B.3.c Condition V.B.3.d Condition V.B.4.a Condition V.B.4.b Condition V.B.4.c Condition V.B.4.d Condition V.B.4.e Condition V.B.4.f Condition V.B.5.a Condition V.B.5.b Condition V.B.5.c Condition V.B.5.d Condition V.B.6.a Condition V.B.6.b	25 PA Code §129.99 25 PA Code §129.99 25 PA Code §129.99 25 PA Code 129.97(g)(2)(i)(A), §129.99 25 PA Code 129.97(g)(2)(i)(C) 129.97(g)(2)(i)(C), 129.97(g)(2)(i)(A), §129.99 25 PA Code §129.98, §129.99, §129.100 25 PA Code §129.99, §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.100 25 PA Code §129.99 25 PA Code §129.99



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September 23, 2016

Email Transmittal: David.Good@AlleghenyCounty.US

Mr. David D. Good
Air Pollution Control Engineer III
Air Quality Program
Allegheny County Health Department ("Health Department")
301 39th Street
Pittsburgh, PA 15201

Re: NRG Power Midwest LP – Cheswick and Brunot Island Generating Stations
Title V Operating Permit Nos. 0054 and 0056
Revised Reasonably Available Control Technology ("RACT") Requirements
Request to Establish a System-Wide NOx Emissions Averaging Plan

Dear Mr. Good:

As discussed our meeting on September 20, 2016, please find below a request from NRG Power Midwest LP ("NRG" or "the Company"), the owner of the Cheswick Generating Station ("Cheswick") and the Brunot Island Generating Station ("Brunot Island"), to establish a system-wide NOx emissions averaging plan. The subject plan will be included as part of the revised RACT requirements for Cheswick and Brunot Island. NRG understands that (i) the revised RACT requirements will become effective by January 1, 2017 and (ii) the Health Department is undertaking efforts in support of the required air permitting related to the revised RACT requirements. Per our discussions during the recent meeting, NRG's request has been prepared in accordance with the requirements promulgated under 25 Pa. Code §§129.96 - 129.100: Additional RACT Requirements for Major Sources of NOx and VOCs ("RACT II Rule").

A summary of the NRG's proposed plan for demonstrating compliance with the RACT II Rule requirements is presented below.

Station	Source Description	Proposed RACT II Rule Compliance Plan
Cheswick	Diesel fuel-fired engines for Air Compressors, 2 engines, each rated at 465 Hp, designated as emergency-use engines under RICE NESHAP (40 CFR 63 Subpart ZZZZ)	Presumptive RACT - maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices: an emergency standby engine operating < 500 hours in a 12-month rolling period
Brunot Island	Diesel Fuel-Fired Engine for Fire Pump, 1 engine rated at 285 Hp, designated as emergency-use engine under RICE NESHAP (40 CFR 63 Subpart ZZZZ)	
Cheswick	Space Heaters, all rated at < 20 MMBtu/hr	Presumptive RACT - maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices: combustion source with an individual rated gross heat input < 20 MMBtu/hr
Brunot Island	Diesel fuel-fired starter engine for CT-1A, 1 engine rated at 460 Hp (3.4 MMBtu/hr heat input)	
Cheswick	Main Boiler No. 1, rated at 5500 MMBtu/hr heat input (MCR), fired with pulverized bituminous coal (primary fuel) and natural gas (for start-up and supplemental firing)	Presumptive RACT NO _x emission limits and system-wide NO _x emissions averaging plan per 25 Pa. Code §§129.97(g)(1)(vi)(A) and (ix) and 129.98 - please see below.
Cheswick	Auxiliary Boiler, rated at 160 MMBtu/hr heat input fired with No. 2 fuel oil	
Brunot Island	Combustion Turbine 1A – simple-cycle CT fired with No. 2 fuel oil, electric generator with nominal maximum electrical output = 20 MW	
Brunot Island	Combustion Turbines 2A, 2B and 3 – each combined-cycle CT fired with natural gas, each with electric generator with nominal maximum electrical output = 63 MW, 3 x 1 arrangement with heat recovery steam generator	

25 Pa. Code §129.98 specifies the criteria that need to be satisfied for establishing a system-wide NOx emissions averaging plan. The criteria and NRG's responses are summarized below:

Citation (25 Pa. Code)	Requirement	NRG's Response
§129.98(a)	The NOx emissions averaging plan includes at least one air contamination source subject to a NOx RACT emission limitation under §129.97 that can not meet the applicable NOx RACT emission limitation	Per the table below, Brunot Island CT-1A can not meet the applicable NOx RACT emission limitation. Please also see related correspondence from NRG to the Health Department as presented in Attachment 1
§129.98(a)	System-wide emissions averaging must be among sources under common control of the same owner or operator within the same ozone nonattainment area in this Commonwealth	Per the table below and 40 CFR §81.339, Allegheny County is part of the 7-county Pittsburgh-Beaver Valley ozone non-attainment area (2008 8-hour ozone NAAQS). Cheswick and Brunot Island are owned by NRG Power Midwest LP, a subsidiary of NRG Energy.
§129.98(b)	Owner or operator of each facility that elects to comply with subsection (a) shall submit a written NOx emissions averaging plan to the Department as part of an application for an operating permit modification. The application incorporating the requirements of this section shall be submitted by October 24, 2016.	Application for Cheswick and Brunot Island enclosed herein.
§129.98(c)	Each NOx air contamination source included in the application for an operating permit for averaging NOx emissions on either a facility-wide or system-wide basis using a 30-day rolling average submitted under subsection (b) must be an air contamination source subject to a NOx RACT emission limitation in § 129.97.	Please see table below
§129.98(d)	The application for the operating permit modification for averaging NOx emissions on either a facility-wide or system-wide basis using a 30-day rolling average submitted under subsection (b) must demonstrate that the aggregate NOx emissions emitted by the air contamination	Please see table below which provides the emissions calculations and a simulated example for illustration purposes.

Citation (25 Pa. Code)	Requirement	NRG's Response
	sources included in the facility-wide or system-wide NOx emissions averaging plan using a 30-day rolling average are not greater than the NOx emissions that would be emitted by the group of included sources if each source complied with the applicable NOx RACT emission limitation in § 129.97 on a source-specific basis.	
§129.98(f)	The application for the operating permit modification specified in subsections (b)-(e) may include facility-wide or system-wide NOx emissions averaging using a 30-day rolling average only for NOx emitting sources or NOx emitting facilities that are owned or operated by the applicant.	The applicant is NRG Power Midwest LP, the owner of Cheswick and Brunot Island.
§129.98(g)	The application for the operating permit modification specified in subsections (b)-(f) must include the following information: (1) Identification of each air contamination source included in the NOx emissions averaging plan. (2) Each air contamination source's applicable emission limitation in § 129.97. (3) Methods for demonstrating compliance and recordkeeping and reporting requirements in accordance with § 129.100 (relating to compliance demonstration and recordkeeping requirements) for each source included in the NOx emissions averaging plan submitted under subsection (b).	Please see table below, NRG will submit a NOx Emissions Averaging Plan compliance status report to the Health Department within 30 days following the end of each calendar quarter

The following units will be included in the subject system-wide NOx emissions averaging plan:

Station	Unit Designation	Fuel	§129.97 NOx Emission Limitation
Cheswick	Boiler No. 1 with SCR	Coal	0.12 lb/MMBtu when flue gas temperature at SCR inlet \geq 600 deg. F
			0.35 lb/MMBtu when flue gas temperature at SCR inlet < 600 deg. F
		Natural Gas *	0.10 lb/MMBtu
Cheswick	Auxiliary Boiler	Distillate Oil	0.12 lb/MMBtu
Brunot Island	CT-1A	Distillate Oil	96 ppmv, dry @ 15% O ₂ = 0.37 lb/MMBtu
Brunot Island	CT-2A	Natural Gas	42 ppmvd @ 15% O ₂ = 0.155 lb/MMBtu)
Brunot Island	CT-2B		
Brunot Island	CT-3		

*: Heat input from natural gas firing may be \geq 1% of the annual (12-month rolling) heat input. Consequently, per rule requirements under §129.97(g)(iv), the applicable limits during coal-firing operations will be adjusted (downward) on a heat input-weighted basis based on the contribution from natural gas usage to the total heat input.

The calculations for system-wide NOx emissions averaging plan under §129.98 are provided below:

$$\sum_{i=1}^n E_{i \text{ actual}} \leq \sum_{i=1}^n E_{i \text{ allowable}}$$

$E_{i \text{ actual}}$ = The actual NOx mass emissions, including emissions during start-ups, shutdowns and malfunctions, for air contamination source i on a 30-day rolling basis.

$E_{i \text{ allowable}}$ = The allowable NOx mass emissions computed using the allowable emission rate limitations for air contamination source i on a 30-day rolling basis specified in § 129.97. If an air contamination source included in an averaging plan is subject to a numerical emission rate limit that is more stringent than the applicable allowable emission rate limitation in § 129.97, then the numerical emission rate limit shall be used for the calculation of the allowable NOx mass emissions.

n = The number of air contamination sources included in the NOx emissions averaging plan.

NOx Emissions System-Wide Averaging Plan Example

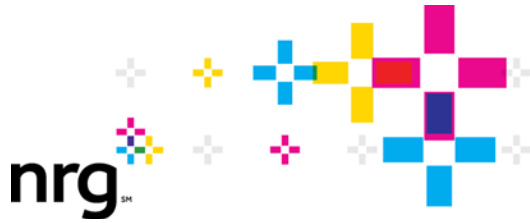
NOx Emissions System-Wide Averaging Plan Example (all units operating at rated heat input)							
Unit	Daily Operating Hours	Rated Heat Input	Applicable Averaging Plan Limit	Over a Rolling 30-Calendar Day Period			
				Actual Rate	Actual NOx Mass	Allowable NOx Mass	Monitoring and Recordkeeping Procedures
	(hrs)	(MMBtu/hr)	(lb/MMBtu)	(lb/MMBtu)	tons	tons	
Cheswick Boiler No. 1	24.0	5500	0.12	0.10	198.0	237.6	1, 3
Cheswick Auxiliary Boiler	4.0	160	0.12	0.13	1.2	1.2	4
Brunot Island CT-1A	4.0	300	0.37	0.59	10.6	6.7	4
Brunot Island CT-2A	8.0	918	0.013	0.011	1.2	1.4	2, 3
Brunot Island CT-2B	8.0	918	0.013	0.011	1.2	1.4	2, 3
Brunot Island CT-3	8.0	918	0.013	0.011	1.2	1.4	2, 3
System-Wide Averaging Plan Results				213.5	<=	249.7	
1: Certified NOx and CO2 CEMs and certified exhaust gas volumetric flow rate monitor per 40 CFR 75 procedures							
2: Certified NOx and O2 CEMs per 40 CFR 75 procedures							
3: Certified natural gas flow meter per 40 CFR 75 procedures							
4: Certified No. 2 fuel oil meter per 40 CFR 75 procedures plus emission rate from recent compliance stack test							

NRG is looking forward to receipt of the Health Department's review and approval to this application via issuance of an updated Title V operating permit. Please contact Mr. Keith Schmidt (724-597-8193, Keith.Schmidt@nrg.com) or me via telephone or email as listed above with any questions or concerns regarding these comments.

Very truly yours,



John P. Shimshock
Sr. Environmental Specialist
Attachment



**NRG Power Midwest LP – Cheswick Generating Station
Comments to Proposed Renewed Title V Operating Permit No. 0054**

Attachment 1

**June 2016 Correspondence Between the Health Department and NRG Related to a
System-Wide NOx Emissions Averaging Plan**



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June 2, 2016

Email Transmittal: AQReports@achd.net

Mr. William J. Rausch, Jr.
Enforcement Engineer - Air Quality Program
Allegheny County Health Department
301 39th Street
Pittsburgh, PA 15201

Re: NRG Power Midwest LP (“NRG”)

Cheswick Generating Station – Title V Operating Permit No. 0054
Auxiliary Boiler – Test Protocol for NOx Emissions Testing

Brunot Island Generating Station - Title V Operating Permit No. 0056
Combustion Turbine 1A - Test Protocol for NOx and VOC Emissions Testing

Dear Mr. Rausch:

Please find enclosed one copy each of the two documents as listed above. NRG is requesting the Department’s review and subsequent issuance of a protocol review letter to help ensure that the performance of the test program is satisfactory to the Department. NRG will assimilate the results from the test program in written summary reports that will be forwarded to the Department following completion of the testing activities.

As noted in the protocols, the purpose of the testing is to develop current emission factors for (i) NOx at the Cheswick Auxiliary Boiler and (ii) NOx and VOC at the Brunot Island Combustion Turbine 1A. The updated emission factors at each station will be used in multiple applications including (i) air emissions inventory preparation, (ii) air emissions tracking and (iii) addressing testing requirements pursuant to the PA DEP’s recently-finalized rulemaking entitled “Additional RACT Requirements for Major Sources of NOx and VOCs” (“RACT II rule”) – see Pennsylvania Bulletin, Volume 46, No. 17, April 23, 2016, pages 2036-2064. A copy of the rulemaking is attached herein.

As previously communicated to the Department’s Air Permitting Group, the rule applies state-wide, compliance with the rule will be required beginning on January 1, 2017 unless the source is proposing to meet the applicable requirements via installation of an air cleaning device (see §129.99(i) of the rule). For these situations, the source owner or operator would need to obtain an Installation Permit that would include an alternate compliance schedule (NRG is not seeking this option for either our Cheswick or Brunot Island stations).

The rule provides a hierarchical approach for demonstrating compliance:

- A. Fuel-specific presumptive NO_x limits for boilers and combustion turbines (CTs), and VOC limits for CTs. Example: 0.12 lb/MMBtu NO_x for a No. 2 oil-fired boiler rated at 50 MMBtu/hr or greater. Please see pages 2057 through 2063 from the attached PA Bulletin notice, which highlight the applicable requirements for the boilers at Cheswick, CTs at Brunot Island, and various small diesel-fired sources at both stations.
- B. If an applicable emission unit can not meet its presumptive NO_x emission limit, then the rule allows for a compliance path via a NO_x averaging (bubbling) plan. The averaging (bubbling) plan can be intra-plant or include multiple plants that are all located within the same ozone non-attainment areas (Cheswick and Brunot Island stations are both located within the Pittsburgh-Beaver Valley ozone non-attainment area). Compliance for the units included in the plan is required to be demonstrated on a rolling 30-day basis year-round mass-based approach. As outlined below, NRG is requesting the Department's concurrence to demonstrate compliance with the RACT II rule NO_x emission limit requirements using this approach.
- C. Case-by-case RACT evaluations – NRG is not seeking this option for either our Cheswick or Brunot Island stations

Rule requirements with focus toward Cheswick and Brunot Island stations include the following:

- Compliance with the applicable emission limits must be demonstrated (i) using certified CEMs for sources required to operate certified CEMs or (ii) via performance of a once every 5 year compliance stack test program.
- Cheswick Boiler No. 1 and Brunot Island CTs 2A, 2B and 3 are equipped with certified NO_x CEMs.
- Completion of compliance stack test programs are required at the Cheswick Auxiliary Boiler (NO_x), Brunot Island CT-1A (NO_x and VOC) and Brunot Island CTs 2A, 2B and 3 (VOC). Test protocols for performing current compliance stack test programs at the Cheswick Auxiliary Boiler (NO_x) and Brunot Island CT-1A (NO_x and VOC) are included in this transmittal.
- For sources required to perform compliance stack test programs, the rule provides an option for air permitting agency to accept the results of a Department-approved test program if such program was conducted on or after April 23, 2015 (see §129.100(c) of the rule). Please recall that compliance stack test programs were conducted in May 2015 at Brunot Island CT-1A (NO_x) and Brunot Island CTs 2A, 2B and 3 (VOC); the summary test reports for those test programs were submitted to the Department in July 2015. The results of the VOC testing at CTs 2A, 2B and 3 showed that measured VOC emissions were approximately one-tenth of the applicable RACT II rule VOC limit – a summary is presented below.

NRG Brunot Island Generating Station – CTs 2A, 2B and 3

Summary of the VOC emissions results from May 2015 compliance test program*

CT	VOC concentration (ppmvd) **	O2 concentration (% , dry)	VOC concentration (ppmvd @ 15% O2) **	Applicable RACT II Rule VOC Limit
2A	0.4	13.7	0.3	5 ppmvd @ 15% O2 **
2B	0.3	14.2	0.3	
3	0.5	14.6	0.4	

*: Average of results from three sequential test runs

** : measured as propane

Based on these recent test results, NRG is requesting the Department's concurrence that the test program conducted in May 2015 satisfies this particular rule requirement. Current Title V permit conditions require the performance of a VOC compliance test at CTs 2A, 2B and 3 at intervals not to exceed once every 5 years, which is consistent with the RACT II rule requirement.

- The results of the NOx compliance test conducted in May 2015 at Brunot Island CT-1A showed that measured NOx emissions (153 ppmv @ 15% O2 = 0.59 lb/MMBtu) were greater than the applicable RACT II rule limit (96 ppmv @ 15% O2 = 0.37 lb/MMBtu). Consequently, NRG is requesting the Department's concurrence to demonstrate compliance with the RACT II rule requirements by establishing a NOx averaging (bubbling) plan that includes (i) Cheswick Boiler No. 1, (ii) Cheswick Auxiliary Boiler and (iii) Brunot Island CTs 1A, 2A, 2B and 3. The upcoming test program at the Brunot Island CT-1A will include measurements of both NOx and VOC emissions.

NRG appreciates the Department's cooperation in the performance of these compliance test programs, and we are looking forward to receipt of the Department's review and approval. If you have any questions or require additional information regarding this submittal, then please contact Ms. Jill Buckley (724-275-1409, jill.buckley@nrg.com) or me via telephone or email as listed above.

Very truly yours,



John P. Shimshock
Sr. Air Environmental Specialist

Attachments

RULES AND REGULATIONS

Title 25—ENVIRONMENTAL PROTECTION

ENVIRONMENTAL QUALITY BOARD

[25 PA. CODE CHS. 121 AND 129]

Additional RACT Requirements for Major Sources of NO_x and VOCs

The Environmental Quality Board (Board) amends Chapters 121 and 129 (relating to general provisions; and standards for sources) to read as set forth in Annex A. The final-form rulemaking amends Chapter 129 to adopt presumptive reasonably available control technology (RACT) requirements and RACT emission limitations for certain major stationary sources of oxides of nitrogen (NO_x) and volatile organic compound (VOC) emissions. The final-form rulemaking also provides for a petition process for an alternative compliance schedule, a facility-wide or system-wide NO_x emissions averaging plan provision, an alternative RACT proposal petition process, and compliance demonstration and recordkeeping requirements.

The final-form rulemaking also amends § 121.1 (relating to definitions) to revise or add terms to support the final-form amendments to Chapter 129.

This order was adopted by the Board at its meeting of November 17, 2015.

A. *Effective Date*

This final-form rulemaking will be effective upon publication in the *Pennsylvania Bulletin*.

This final-form rulemaking will be submitted to the United States Environmental Protection Agency (EPA) for approval as a revision to the Commonwealth's State Implementation Plan (SIP) upon publication.

B. *Contact Persons*

For further information, contact Kirit Dalal, Chief, Division of Air Resource Management, Bureau of Air Quality, 12th Floor, Rachel Carson State Office Building, P. O. Box 8468, Harrisburg, PA 17105-8468, (717) 772-3436; or Robert "Bo" Reiley, Assistant Director, Bureau of Regulatory Counsel, 9th Floor, Rachel Carson State Office Building, P. O. Box 8464, Harrisburg, PA 17105-8464, (717) 787-7060. Persons with a disability may use the Pennsylvania AT&T Relay Service, (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This final-form rulemaking is available on the Department of Environmental Protection's (Department) web site at www.dep.pa.gov (select "Public Participation," then "Environmental Quality Board (EQB)").

C. *Statutory Authority*

This final-form rulemaking is authorized under section 5(a)(1) of the Air Pollution Control Act (act) (35 P.S. § 4005(a)(1)), which grants the Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth, and section 5(a)(8) of the act, which grants the Board the authority to adopt rules and regulations designed to implement the Clean Air Act (CAA) (42 U.S.C.A. §§ 7401—7671q).

D. *Background and Summary*

The EPA is required under section 109 of the CAA (42 U.S.C.A. § 7409) to set National Ambient Air Quality Standards (NAAQS) for six criteria pollutants, of which ground-level ozone is one. The NAAQS are established by the EPA as the maximum concentrations in the ambient atmosphere for specific air contaminants to protect public health and welfare.

Ozone is a highly reactive gas which at sufficient concentrations can produce a wide variety of harmful effects. At elevated concentrations, ground-level ozone can adversely affect human health, vegetation, materials, economic values, and personal comfort and well-being. It can cause damage to important food crops, forests, livestock and wildlife. Repeated exposure to ozone pollution may cause a variety of adverse health effects for healthy people and those with existing conditions including difficulty breathing, chest pains, coughing, nausea, throat irritation and congestion. It can worsen bronchitis, heart disease, emphysema and asthma, and reduce lung capacity. Asthma is a significant and growing threat to children and adults. High levels of ground-level ozone also affect animals in ways similar to humans.

The EPA promulgated primary and secondary NAAQS for photochemical oxidants under section 109 of the CAA at 36 FR 8186 (April 30, 1971). These were set at an hourly average of 0.08 parts per million (ppm) total photochemical oxidants not to be exceeded more than 1 hour per year. The EPA announced a revision to the then-current 1-hour standard at 44 FR 8202 (February 8, 1979). The EPA final rule revised the level of the primary 1-hour ozone standard from 0.08 ppm to 0.12 ppm and set the secondary standard identical to the primary standard. This revised 1-hour standard was subsequently reaffirmed at 58 FR 13008 (March 9, 1993).

Section 110 of the CAA (42 U.S.C.A. § 7410) gives states primary responsibility for achieving the NAAQS. The principal mechanism at the state level for complying with the CAA is the SIP. A SIP includes the regulatory programs, actions and commitments a state will carry out to implement its responsibilities under the CAA. Once approved by the EPA, a SIP is legally enforceable under both Federal and state law.

Section 182 of the CAA (42 U.S.C.A. § 7511a) requires that, for areas that exceed the NAAQS for ozone, states shall develop and implement a program that mandates that certain major stationary sources develop and implement a RACT program. RACT is defined as the lowest emissions limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. See 44 FR 53762 (September 17, 1979).

Under section 182(f)(1) of the CAA and section 184(b)(2) of the CAA (42 U.S.C.A. § 7511c(b)(2)), these RACT requirements are applicable to all sources in this Commonwealth that emit or have a potential to emit greater than 100 tons per year (tpy) of NO_x. Under sections 182(b)(2) and 184(b)(2) of the CAA, these RACT requirements are applicable to all sources in this Commonwealth that emit or have a potential to emit greater than 50 tpy of VOCs. NO_x and VOC controls are required Statewide because of the Commonwealth's inclusion in the Northeast Ozone Transport Region. See section 184(a) of the CAA. Additionally, because the five-county Philadelphia area was designated as severe ozone nonattainment for

(4) These regulations are necessary and appropriate for administration and enforcement of the authorizing acts identified in Section C of this preamble.

(5) These regulations are reasonably necessary to attain and maintain the 8-hour ozone NAAQS and to satisfy related CAA requirements.

L. Order

The Board, acting under the authorizing statutes, orders that:

(a) The regulations of the Department, 25 Pa. Code Chapters 121 and 129, are amended by adding §§ 129.96—129.100 and by amending § 121.1 to read as set forth in Annex A, with ellipses referring to existing text of the regulations.

(b) The Chairperson of the Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for review and approval as to legality and form, as required by law.

(c) The Chairperson of the Board shall submit this order and Annex A to IRRC and the Committees as required by the Regulatory Review Act.

(d) The Chairperson of the Board shall certify this order and Annex A and deposit them with the Legislative Reference Bureau as required by law.

(e) This final-form rulemaking will be submitted to the EPA as an amendment to the Pennsylvania SIP.

(f) This order shall take effect upon publication in the *Pennsylvania Bulletin*.

JOHN QUIGLEY,
Chairperson

(Editor's Note: See 46 Pa.B. 1623 (March 26, 2016) for IRRC's approval order.)

Fiscal Note: Fiscal Note 7-485 remains valid for the final adoption of the subject regulations.

Annex A

TITLE 25. ENVIRONMENTAL PROTECTION PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

Subpart C. PROTECTION OF NATURAL RESOURCES

ARTICLE III. AIR RESOURCES

CHAPTER 121. GENERAL PROVISIONS

§ 121.1. Definitions.

The definitions in section 3 of the act (35 P. S. § 4003) apply to this article. In addition, the following words and terms, when used in this article, have the following meanings, unless the context clearly indicates otherwise:

* * * * *

CEMS—*Continuous emissions monitoring system*—All of the equipment that may be required to meet the data acquisition and availability requirements established under the act or the Clean Air Act to monitor, measure, calculate, sample, condition, analyze and provide a record of emissions from an affected unit on a continuous basis.

* * * * *

Major NO_x emitting facility—A facility which emits or has the potential to emit NO_x from the processes located at the site or on contiguous properties under the common control of the same person at a rate greater than one of the following:

(i) Ten TPY in an ozone nonattainment area designated as extreme under section 182(e) and (f) of the Clean Air Act (42 U.S.C.A. § 7511a(e) and (f)).

(ii) Twenty-five TPY in an ozone nonattainment area designated as severe under section 182(d) and (f) of the Clean Air Act.

(iii) Fifty TPY in an area designated as serious under section 182(c) and (f) of the Clean Air Act.

(iv) One hundred TPY in an area included in an ozone transport region established under section 184 of the Clean Air Act (42 U.S.C.A. § 7511c).

(v) Twenty-five TPY and is located in Bucks, Chester, Delaware, Montgomery or Philadelphia County. This threshold does not apply to §§ 129.96—129.100 (relating to additional RACT requirements for major sources of NO_x and VOCs).

Major VOC emitting facility—A facility which emits or has the potential to emit VOCs from processes located at the site or on contiguous properties under the common control of the same person at a rate greater than one of the following:

(i) Ten TPY in an ozone nonattainment area designated as extreme under section 182(e) of the Clean Air Act.

(ii) Twenty-five TPY in an ozone nonattainment area designated as severe under section 182(d) of the Clean Air Act.

(iii) Fifty TPY in an area included in an ozone transport region established under section 184 of the Clean Air Act.

(iv) Twenty-five TPY and is located in Bucks, Chester, Delaware, Montgomery or Philadelphia County. This threshold does not apply to §§ 129.96—129.100.

* * * * *

Process—A method, reaction or operation in which materials are handled or whereby materials undergo physical change—that is, the size, shape, appearance, temperature, state or other physical property of the material is altered—or chemical change—that is, a substance with different chemical composition or properties is formed or created. The term includes all of the equipment, operations and facilities necessary for the completion of the transformation of the materials to produce a physical or chemical change. There may be several processes in series or parallel necessary to the manufacture of a product.

Process heater—

(i) An enclosed device using controlled flame, that is not a boiler, the primary purpose of which is to transfer heat to a process material or to a heat transfer material for use in a process unit.

(ii) The term does not include an enclosed device that meets either of the following circumstances:

(A) Has the primary purpose of generating steam.

(B) In which the material being heated is in direct contact with the products of combustion, including:

(I) A furnace.

(II) A kiln.

(III) An unfired waste heat recovery heater.

(IV) A unit used for comfort heat, space heat or food preparation for onsite consumption.

(V) An autoclave.

Project—A physical change in or change in the method of operation of an existing facility, including a new emissions unit.

* * * * *

Refinery component—A piece of equipment which has the potential to leak VOCs when tested in the manner specified in § 129.58 (relating to petroleum refineries—fugitive sources). These sources include, but are not limited to, pump seals, compressor seals, seal oil degassing vents, pipeline valves, pressure relief devices, process drains and open-ended pipes. Excluded from these sources are valves which are not externally regulated.

Refinery gas—Gas produced at a refinery which produces petroleum products, including gasoline, from refinery units.

Refinery unit—A basic process operation, such as distillation hydrotreating, cracking or reforming of hydrocarbons which is made up of a set of refinery components.

Regenerative cycle combustion turbine—A stationary combustion turbine which recovers heat from the combustion turbine exhaust gases to preheat the inlet combustion air to the combustion turbine.

Regulated NSR pollutant—

* * * * *

Silicone insulation material—An insulating material applied to exterior metal surfaces of aerospace vehicles for protection from high temperatures caused by atmospheric friction or engine exhaust. These materials differ from ablative coatings in that they are not designed to be purposefully exposed to open flame or extreme heat and charred.

Simple cycle combustion turbine—A stationary combustion turbine which does not recover heat from the combustion turbine exhaust gases to preheat the inlet combustion air to the combustion turbine, or which does not recover heat from the combustion turbine exhaust gases for purposes other than enhancing the performance of the combustion turbine itself.

Single coat—One film of coating applied to a metal surface.

* * * * *

Start-up—For purposes of §§ 129.301—129.310, the period of time, after initial construction, shutdown or cold shutdown, during which a glass melting furnace is heated to stable operating temperature by the primary furnace combustion system, and systems and instrumentation are brought to stabilization.

Stationary combustion turbine—Equipment, including the turbine, fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), heat recovery system, and ancillary components and subcomponents comprising a simple cycle combustion turbine, a regenerative or recuperative cycle combustion turbine, a combined cycle combustion turbine, and a combined heat and power combustion turbine-based system. The equipment is not self-propelled or intended to be propelled while performing its function. The equipment may be mounted on a vehicle for portability.

Stationary internal combustion engine or stationary reciprocating internal combustion engine—

(i) An internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile.

(ii) The term does not include the following:

(A) A combustion turbine.

(B) A nonroad engine as defined in 40 CFR 1068.30 (relating to what definitions apply to this part), excluding paragraph (2)(ii) of this definition.

(C) An engine used to propel a motor vehicle, an aircraft or a vehicle used solely for competition.

(D) A portable temporary source such as an air compressor or generator.

Stockpiling—The act of placing, storing and removing materials on piles exposed to the outdoor atmosphere. Placing refers to the deposition of material onto the pile. Removing refers to disturbing the pile either for loading of material into or onto vehicles for transportation purposes or for material handling. Material that is not to be utilized in the production of a product or is not itself a useful product is excluded from the definition of stockpile material. Operations which consist entirely of transferring material between different transportation conveyances are also excluded from this definition.

* * * * *

CHAPTER 129. STANDARDS FOR SOURCES ADDITIONAL RACT REQUIREMENTS FOR MAJOR SOURCES OF NO_x AND VOCs

§ 129.96. Applicability.

(a) The NO_x requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a major NO_x emitting facility and the VOC requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a major VOC emitting facility that were in existence on or before July 20, 2012, for which a requirement or emission limitation, or both, has not been established in §§ 129.51—129.52c, 129.54—129.69, 129.71—129.73, 129.75, 129.77, 129.101—129.107 and 129.301—129.310.

(b) The NO_x requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a NO_x emitting facility and the VOC requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a VOC emitting facility when the installation of a new source or a modification or change in operation of an existing source after July 20, 2012, results in the source or facility meeting the definition of a major NO_x emitting facility or a major VOC emitting facility and for which a requirement or an emission limitation, or both, has not been established in §§ 129.51—129.52c, 129.54—129.69, 129.71—129.73, 129.75, 129.77, 129.101—129.107 and 129.301—129.310.

(c) This section and §§ 129.97—129.100 do not apply to the owner and operator of a NO_x air contamination source located at a major NO_x emitting facility that has the potential to emit less than 1 TPY of NO_x or a VOC air contamination source located at a major VOC emitting facility that has the potential to emit less than 1 TPY of VOC.

(d) This section and §§ 129.97—129.100 do not apply to the owner and operator of a facility which is not a major NO_x emitting facility or a major VOC emitting facility on or before January 1, 2017.

§ 129.97. Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule.

(a) The owner and operator of a source listed in one or more of subsections (b)—(h) located at a major NO_x

emitting facility or major VOC emitting facility subject to § 129.96 (relating to applicability) shall comply with the applicable presumptive RACT requirement or RACT emission limitation, or both, beginning with the specified compliance date as follows, unless an alternative compliance schedule is submitted and approved under subsections (k)—(m) or § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule):

(1) January 1, 2017, for a source subject to § 129.96(a).

(2) January 1, 2017, or 1 year after the date the source meets the definition of a major NO_x emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(b) The owner and operator of a source specified in this subsection, which is located at a major NO_x emitting facility or major VOC emitting facility subject to § 129.96 shall comply with the following:

(1) The presumptive RACT requirement for a combustion unit with a rated heat input equal to or greater than 20 million Btu/hour and less than 50 million Btu/hour, which is the performance of a biennial tune-up conducted in accordance with the procedures in 40 CFR 63.11223 (relating to how do I demonstrate continuous compliance with the work practice and management practice standards). The biennial tune-up must include, at a minimum, the following:

(i) Inspection and cleaning or replacement of fuel-burning equipment, including the burners and components, as necessary, for proper operation as specified by the manufacturer.

(ii) Inspection of the flame pattern and adjustment of the burner, as necessary, to optimize the flame pattern to minimize total emissions of NO_x and, to the extent possible, emissions of CO.

(iii) Inspection and adjustment, as necessary, of the air-to-fuel ratio control system to ensure proper calibration and operation as specified by the manufacturer.

(2) The owner or operator of a combustion unit with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up shall conduct a tune-up of the boiler one time in each 5-year calendar period. The tune-up must include, at a minimum, the following:

(i) Inspection and cleaning or replacement of fuel-burning equipment, including the burners and components, as necessary, for proper operation as specified by the manufacturer.

(ii) Inspection of the flame pattern and adjustment of the burner, as necessary, to optimize the flame pattern to minimize total emissions of NO_x and, to the extent possible, emissions of CO.

(iii) Inspection and adjustment, as necessary, of the air-to-fuel ratio control system to ensure proper calibration and operation as specified by the manufacturer.

(3) The applicable recordkeeping requirements of § 129.100(d), (e) or (f) (relating to compliance demonstration and recordkeeping requirements).

(c) The owner and operator of a source specified in this subsection, which is located at a major NO_x emitting facility or major VOC emitting facility subject to § 129.96 shall install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices:

(1) A NO_x air contamination source that has the potential to emit less than 5 TPY of NO_x.

(2) A VOC air contamination source that has the potential to emit less than 2.7 TPY of VOC.

(3) A boiler or other combustion source with an individual rated gross heat input less than 20 million Btu/hour.

(4) A combustion turbine with a rated output less than 1,000 bhp.

(5) A stationary internal combustion engine rated at less than 500 bhp (gross).

(6) An incinerator, thermal oxidizer or catalytic oxidizer used primarily for air pollution control.

(7) A fuel-burning unit with an annual capacity factor of less than 5%.

(i) For a combustion unit, the annual capacity factor is the ratio of the unit's heat input (in million Btu or equivalent units of measure) to the unit's maximum rated hourly heat input rate (in million Btu/hour or equivalent units of measure) multiplied by 8,760 hours during a period of 12 consecutive calendar months.

(ii) For an electric generating unit, the annual capacity factor is the ratio of the unit's actual electric output (expressed in MWe/hr) to the unit's nameplate capacity (or maximum observed hourly gross load (in MWe/hr) if greater than the nameplate capacity) multiplied by 8,760 hours during a period of 12 consecutive calendar months.

(iii) For any other unit, the annual capacity factor is the ratio of the unit's actual operating level to the unit's potential operating level during a period of 12 consecutive calendar months.

(8) An emergency standby engine operating less than 500 hours in a 12-month rolling period.

(d) Except as specified under subsection (c), the owner and operator of a combustion unit or other combustion source located at a major VOC emitting facility subject to § 129.96 shall install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices for the control of the VOC emissions from the combustion unit or other combustion source.

(e) The owner and operator of a municipal solid waste landfill subject to § 129.96 shall comply with the following applicable presumptive RACT requirement:

(1) For a municipal solid waste landfill constructed on or before May 30, 1991, emission guidelines and compliance times in 40 CFR Part 60, Subpart Cc (relating to emission guidelines and compliance times for municipal solid waste landfills), which are adopted and incorporated by reference in § 122.3 (relating to adoption of standards), and applicable Federal or state plans in 40 CFR Part 62 (relating to approval and promulgation of state plans for designated facilities and pollutants).

(2) For a municipal solid waste landfill constructed after May 30, 1991, New Source Performance Standards in 40 CFR Part 60, Subpart WWW (relating to standards of performance for municipal solid waste landfills), which are adopted and incorporated by reference in § 122.3.

(f) The owner and operator of a municipal waste combustor subject to § 129.96 shall comply with the presumptive RACT requirement of 180 ppmvd NO_x @ 7% oxygen.

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(g) Except as specified under subsection (c), the owner and operator of a NO_x air contamination source specified in this subsection, which is located at a major NO_x emitting facility or a VOC air contamination source specified in this subsection, which is located at a major VOC emitting facility subject to § 129.96 may not cause, allow or permit NO_x or VOCs to be emitted from the air contamination source in excess of the applicable presumptive RACT emission limitation:

(1) A combustion unit or process heater:

(i) For a natural gas-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour, 0.10 lb NO_x /million Btu heat input.

(ii) For a distillate oil-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour, 0.12 lb NO_x /million Btu heat input.

(iii) For a residual oil-fired or other liquid fuel-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour, 0.20 lb NO_x /million Btu heat input.

(iv) For a refinery gas-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour, 0.25 lb NO_x /million Btu heat input.

(v) For a coal-fired combustion unit with a rated heat input equal to or greater than 50 million Btu/hour and less than 250 million Btu/hour, 0.45 lb NO_x /million Btu heat input.

(vi) For a coal-fired combustion unit with a rated heat input equal to or greater than 250 million Btu/hour that is:

(A) A circulating fluidized bed combustion unit, 0.16 lb NO_x /million Btu heat input.

(B) A tangentially fired combustion unit, 0.35 lb NO_x /million Btu heat input.

(C) Any other type of coal-fired combustion unit, 0.40 lb NO_x /million Btu heat input.

(vii) For any other type of solid fuel-fired combustion unit with a rated heat input equal to or greater than 50 million Btu/hour, 0.25 lb NO_x /million Btu heat input.

(viii) For a coal-fired combustion unit with a selective catalytic reduction system operating with an inlet temperature equal to or greater than 600°F, 0.12 lb NO_x /million Btu heat input. Compliance with this emission limit is also required when by-passing the selective catalytic reduction system.

(ix) For a coal-fired combustion unit with a selective noncatalytic reduction system, the selective noncatalytic reduction system shall be operated with the injection of reagents including ammonia or other NO_x -reducing agents when the temperature at the area of the reagent injection is equal to or greater than 1,600°F.

(2) A combustion turbine:

(i) For a combined cycle or combined heat and power combustion turbine with a rated output equal to or greater than 1,000 bhp and less than 180 MW when firing:

(A) Natural gas or a noncommercial gaseous fuel, 42 ppmvd NO_x @ 15% oxygen.

(B) Fuel oil, 96 ppmvd NO_x @ 15% oxygen.

(C) Natural gas or a noncommercial gaseous fuel, 5 ppmvd VOC (as propane) @ 15% oxygen.

(D) Fuel oil, 9 ppmvd VOC (as propane) @ 15% oxygen.

(ii) For a combined cycle or combined heat and power combustion turbine with a rated output equal to or greater than 180 MW when firing:

(A) Natural gas or a noncommercial gaseous fuel, 4 ppmvd NO_x @ 15% oxygen.

(B) Fuel oil, 8 ppmvd NO_x @ 15% oxygen.

(C) Natural gas or a noncommercial gaseous fuel, 2 ppmvd VOC (as propane) @ 15% oxygen.

(D) Fuel oil, 2 ppmvd VOC (as propane) @ 15% oxygen.

(iii) For a simple cycle or regenerative cycle combustion turbine with a rated output equal to or greater than 1,000 bhp and less than 6,000 bhp when firing:

(A) Natural gas or a noncommercial gaseous fuel, 150 ppmvd NO_x @ 15% oxygen.

(B) Fuel oil, 150 ppmvd NO_x @ 15% oxygen.

(C) Natural gas or a noncommercial gaseous fuel, 9 ppmvd VOC (as propane) @ 15% oxygen.

(D) Fuel oil, 9 ppmvd VOC (as propane) @ 15% oxygen.

(iv) For a simple cycle or regenerative cycle combustion turbine with a rated output equal to or greater than 6,000 bhp when firing:

(A) Natural gas or a noncommercial gaseous fuel, 42 ppmvd NO_x @ 15% oxygen.

(B) Fuel oil, 96 ppmvd NO_x @ 15% oxygen.

(C) Natural gas or a noncommercial gaseous fuel, 9 ppmvd VOC (as propane) @ 15% oxygen.

(D) Fuel oil, 9 ppmvd VOC (as propane) @ 15% oxygen.

(3) A stationary internal combustion engine:

(i) For a lean burn stationary internal combustion engine with a rating equal to or greater than 500 bhp fired with:

(A) Natural gas or a noncommercial gaseous fuel, 3.0 grams NO_x /bhp-hr.

(B) Natural gas or a noncommercial gaseous fuel, liquid fuel or dual-fuel, 1.0 gram VOC/bhp-hr excluding formaldehyde.

(ii) For a stationary internal combustion engine with a rating equal to or greater than 500 bhp fired with liquid fuel or dual-fuel, 8.0 grams NO_x /bhp-hr.

(iii) For a rich burn stationary internal combustion engine with a rating equal to or greater than 500 bhp fired with:

(A) Natural gas or a noncommercial gaseous fuel, 2.0 grams NO_x /bhp-hr.

(B) Natural gas or a noncommercial gaseous fuel, 1.0 gram VOC/bhp-hr.

(4) A unit firing multiple fuels:

(i) The applicable RACT multiple fuel emission limit shall be determined on a total heat input fuel weighted basis using the following equation:

$$E_{\text{HIweighted}} = \frac{\sum_{i=1}^n E_i \text{HI}_i}{\sum_{i=1}^n \text{HI}_i}$$

Where:

$E_{\text{HIweighted}}$ = The heat input fuel weighted multiple fuel emission rate or emission limitation for the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.

E_i = The emission rate or emission limit for fuel i during the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.

HI_i = The total heat input for fuel i during the compliance period.

n = The number of different fuels used during the compliance period.

(ii) A fuel representing less than 1% of the unit's annual fuel consumption on a heat input basis is excluded when determining the applicable RACT multiple fuel emission limit calculated in accordance with subparagraph (i).

(iii) The determination in subparagraph (i) does not apply to a stationary internal combustion engine that is subject to the RACT emission limits in paragraph (3).

(h) The owner and operator of a Portland cement kiln subject to § 129.96 shall comply with the following applicable presumptive RACT emission limitation:

(1) 3.88 pounds of NO_x per ton of clinker produced for a long wet-process cement kiln as defined in § 145.142 (relating to definitions).

(2) 3.44 pounds of NO_x per ton of clinker produced for a long dry-process cement kiln as defined in § 145.142.

(3) 2.36 pounds of NO_x per ton of clinker produced for:

(i) A preheater cement kiln as defined in § 145.142.

(ii) A precalciner cement kiln as defined in § 145.142.

(i) The requirements and emission limitations of this section supersede the requirements and emission limitations of a RACT permit issued to the owner or operator of an air contamination source subject to one or more of subsections (b)–(h) prior to April 23, 2016, under §§ 129.91–129.95 (relating to stationary sources of NO_x and VOCs) to control, reduce or minimize NO_x emissions or VOC emissions, or both, from the air contamination source unless the permit contains more stringent requirements or emission limitations, or both.

(j) The requirements and emission limitations of this section supersede the requirements and emission limitations of §§ 129.201–129.205, 145.111–145.113 and 145.141–145.146 (relating to additional NO_x requirements; emissions of NO_x from stationary internal combustion engines; and emissions of NO_x from cement manufacturing) unless the requirements or emission limitations of §§ 129.201–129.205, §§ 145.111–145.113 or §§ 145.141–145.146 are more stringent.

(k) The owner or operator of a major NO_x emitting facility or a major VOC emitting facility subject to § 129.96 that includes an air contamination source subject to one or more of subsections (b)–(h) that cannot meet the applicable presumptive RACT requirement or RACT emission limitation without installation of an air cleaning device may submit a petition, in writing, requesting an alternative compliance schedule in accordance with the following:

(1) The written petition shall be submitted to the Department or appropriate approved local air pollution control agency as soon as possible but not later than:

(i) October 24, 2016, for a source subject to § 129.96(a).

(ii) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO_x emitting facility, whichever is later, for a source subject to § 129.96(b).

(2) The written petition must include:

(i) A description, including make, model and location, of each affected source subject to a RACT requirement or a RACT emission limitation in one or more of subsections (b)–(h).

(ii) A description of the proposed air cleaning device to be installed.

(iii) A schedule containing proposed interim dates for completing each phase of the required work to install the air cleaning device described in subparagraph (ii).

(iv) A proposed interim emission limitation that will be imposed on the affected source until compliance is achieved with the applicable RACT requirement or RACT emission limitation.

(v) A proposed final compliance date that is as soon as possible but not later than 3 years after the written approval of the petition by the Department or the appropriate approved local air pollution control agency. The approved petition shall be incorporated in an applicable operating permit or plan approval.

(l) The Department or appropriate approved local air pollution control agency will review the timely and complete written petition requesting an alternative compliance schedule submitted in accordance with subsection (k) and approve or deny the petition in writing.

(m) Approval or denial under subsection (l) of the timely and complete petition for an alternative compliance schedule submitted under subsection (k) will be effective on the date the letter of approval or denial of the petition is signed by the authorized representative of the Department or appropriate approved local air pollution control agency.

§ 129.98. Facility-wide or system-wide NO_x emissions averaging plan general requirements.

(a) The owner or operator of a major NO_x emitting facility subject to § 129.96 (relating to applicability) that includes at least one air contamination source subject to a NO_x RACT emission limitation in § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) that cannot meet the applicable NO_x RACT emission limitation may elect to meet the applicable NO_x RACT emission limitation in § 129.97 by averaging NO_x emissions on either a facility-wide or system-wide basis using a 30-day rolling average. System-wide emissions averaging must be among sources under common control of the same owner or operator within the same ozone nonattainment area in this Commonwealth.

(b) The owner or operator of each facility that elects to comply with subsection (a) shall submit a written NO_x emissions averaging plan to the Department or appropriate approved local air pollution control agency as part of an application for an operating permit modification or a plan approval, if otherwise required. The application incorporating the requirements of this section shall be submitted by the applicable date as follows:

(1) October 24, 2016, for a source subject to § 129.96(a).

(2) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO_x emitting facility, whichever is later, for a source subject to § 129.96(b).

(c) Each NO_x air contamination source included in the application for an operating permit modification or a plan approval, if otherwise required, for averaging NO_x emis-

sions on either a facility-wide or system-wide basis using a 30-day rolling average submitted under subsection (b) must be an air contamination source subject to a NO_x RACT emission limitation in § 129.97.

(d) The application for the operating permit modification or the plan approval, if otherwise required, for averaging NO_x emissions on either a facility-wide or system-wide basis using a 30-day rolling average submitted under subsection (b) must demonstrate that the aggregate NO_x emissions emitted by the air contamination sources included in the facility-wide or system-wide NO_x emissions averaging plan using a 30-day rolling average are not greater than the NO_x emissions that would be emitted by the group of included sources if each source complied with the applicable NO_x RACT emission limitation in § 129.97 on a source-specific basis.

(e) The owner or operator shall calculate the alternative facility-wide or system-wide NO_x RACT emissions limitation using a 30-day rolling average for the air contamination sources included in the application for the operating permit modification or plan approval, if otherwise required, submitted under subsection (b) by using the following equation to sum the emissions for all of the sources included in the NO_x emissions averaging plan:

$$\left[\sum_{i=1}^n E_{i_{\text{actual}}} \right] \leq \left[\sum_{i=1}^n E_{i_{\text{allowable}}} \right]$$

Where:

$E_{i_{\text{actual}}}$ = The actual NO_x mass emissions, including emissions during start-ups, shutdowns and malfunctions, for air contamination source i on a 30-day rolling basis.

$E_{i_{\text{allowable}}}$ = The allowable NO_x mass emissions computed using the allowable emission rate limitations for air contamination source i on a 30-day rolling basis specified in § 129.97. If an air contamination source included in an averaging plan is subject to a numerical emission rate limit that is more stringent than the applicable allowable emission rate limitation in § 129.97, then the numerical emission rate limit shall be used for the calculation of the allowable NO_x mass emissions.

n = The number of air contamination sources included in the NO_x emissions averaging plan.

(f) The application for the operating permit modification or a plan approval, if otherwise required, specified in subsections (b)—(e) may include facility-wide or system-wide NO_x emissions averaging using a 30-day rolling average only for NO_x emitting sources or NO_x emitting facilities that are owned or operated by the applicant.

(g) The application for the operating permit modification or a plan approval, if otherwise required, specified in subsections (b)—(f) must include the following information:

(1) Identification of each air contamination source included in the NO_x emissions averaging plan.

(2) Each air contamination source's applicable emission limitation in § 129.97.

(3) Methods for demonstrating compliance and recordkeeping and reporting requirements in accordance with § 129.100 (relating to compliance demonstration and recordkeeping requirements) for each source included in the NO_x emissions averaging plan submitted under subsection (b).

(h) An air contamination source or facility included in the facility-wide or system-wide NO_x emissions averaging plan submitted in accordance with subsections (b)—(g)

may be included in only one facility-wide or system-wide NO_x emissions averaging plan.

(i) The Department or appropriate approved local air pollution control agency will issue a modification to the operating permit or a plan approval authorizing the NO_x emissions averaging plan.

(j) The owner or operator of an air contamination source or facility included in the facility-wide or system-wide NO_x emissions averaging plan submitted in accordance with subsections (b)—(h) shall submit the reports and records specified in subsection (g)(3) to the Department or appropriate approved local air pollution control agency on the schedule specified in subsection (g)(3) to demonstrate compliance with § 129.100.

(k) The owner or operator of an air contamination source or facility included in a facility-wide or system-wide NO_x emissions averaging plan submitted in accordance with subsections (b)—(h) that achieves emission reductions in accordance with other emission limitations required under the act or the Clean Air Act, or regulations adopted under the act or the Clean Air Act, that are not NO_x RACT emission limitations may not substitute those emission reductions for the emission reductions required by the facility-wide or system-wide NO_x emissions averaging plan submitted to the Department or appropriate approved local air pollution control agency under subsection (b).

(l) The owner or operator of an air contamination source subject to a NO_x RACT emission limitation in § 129.97 that is not included in a facility-wide or system-wide NO_x emissions averaging plan submitted under subsection (b) shall operate the source in compliance with the applicable NO_x RACT emission limitation in § 129.97.

(m) The owner and operator of the air contamination sources included in a facility-wide or system-wide NO_x emissions averaging plan submitted under subsection (b) shall be liable for a violation of an applicable NO_x RACT emission limitation at each source included in the NO_x emissions averaging plan.

§ 129.99. Alternative RACT proposal and petition for alternative compliance schedule.

(a) The owner or operator of an air contamination source subject to § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) located at a major NO_x emitting facility or major VOC emitting facility subject to § 129.96 (relating to applicability) that cannot meet the applicable presumptive RACT requirement or RACT emission limitation of § 129.97 may propose an alternative RACT requirement or RACT emission limitation in accordance with subsection (d).

(b) The owner or operator of a NO_x air contamination source with a potential emission rate equal to or greater than 5.0 tons of NO_x per year that is not subject to § 129.97 or §§ 129.201—129.205 (relating to additional NO_x requirements) located at a major NO_x emitting facility subject to § 129.96 shall propose a NO_x RACT requirement or RACT emission limitation in accordance with subsection (d).

(c) The owner or operator of a VOC air contamination source with a potential emission rate equal to or greater than 2.7 tons of VOC per year that is not subject to § 129.97 located at a major VOC emitting facility subject to § 129.96 shall propose a VOC RACT requirement or RACT emission limitation in accordance with subsection (d).

(d) The owner or operator proposing an alternative RACT requirement or RACT emission limitation under subsection (a), (b) or (c) shall:

(1) Submit a written RACT proposal in accordance with the procedures in § 129.92(a)(1)—(5), (7)—(10) and (b) (relating to RACT proposal requirements) to the Department or appropriate approved local air pollution control agency as soon as possible but not later than:

(i) October 24, 2016, for a source subject to § 129.96(a).

(ii) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO_x emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(2) Be in receipt of an approval issued by the Department or appropriate approved local air pollution control agency in writing through a plan approval or operating permit modification for a RACT proposal submitted under paragraph (1)(ii) prior to the installation, modification or change in the operation of the existing air contamination source that will result in the source or facility meeting the definition of a major NO_x emitting facility or major VOC emitting facility.

(3) Include in the RACT proposal the proposed alternative NO_x RACT requirement or RACT emission limitation or VOC RACT requirement or RACT emission limitation developed in accordance with the procedures in § 129.92(a)(1)—(5) and (b).

(4) Include in the RACT proposal a schedule for completing implementation of the RACT requirement or RACT emission limitation as soon as possible but not later than:

(i) January 1, 2017, for a source subject to § 129.96(a).

(ii) January 1, 2017, or 1 year after the date that the source meets the definition of a major NO_x emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(5) Include interim dates in the schedule required under paragraph (4) for the:

(i) Issuance of purchase orders.

(ii) Start and completion of process, technology and control technology changes.

(iii) Completion of compliance testing.

(6) Include in the RACT proposal methods for demonstrating compliance and recordkeeping and reporting requirements in accordance with § 129.100 (relating to compliance demonstration and recordkeeping requirements) for each air contamination source included in the RACT proposal.

(7) Demonstrate to the satisfaction of the Department or the appropriate approved local air pollution control agency that the proposed requirement or RACT emission limitation is RACT for the air contamination source.

(e) The Department or appropriate approved local air pollution control agency will:

(1) Review the timely and complete alternative RACT proposal submitted in accordance with subsection (d).

(2) Approve the alternative RACT proposal submitted under subsection (d), in writing, if the Department or appropriate approved local air pollution control agency is satisfied that the alternative RACT proposal complies with the requirements of subsection (d) and that the proposed alternative requirement or RACT emission limitation is RACT for the air contamination source.

(3) Deny or modify the alternative RACT proposal submitted under subsection (d), in writing, if the proposal does not comply with the requirements of subsection (d).

(f) The proposed alternative RACT requirement or RACT emission limitation and the implementation schedule submitted under subsection (d) will be approved, denied or modified by the Department or appropriate approved local air pollution control agency in accordance with subsection (e) in writing through the issuance of a plan approval or operating permit modification prior to the owner or operator implementing the alternative RACT requirement or RACT emission limitation.

(g) The emission limit and requirements specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (f) supersede the emission limit and requirements in the existing plan approval or operating permit issued to the owner or operator of the source prior to April 23, 2016, on the date specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (f), except to the extent the existing plan approval or operating permit contains more stringent requirements.

(h) The Department will submit each alternative RACT requirement or RACT emission limitation approved under subsection (f) to the Administrator of the EPA for approval as a revision to the SIP. The owner and operator of the facility shall bear the costs of public hearings and notifications, including newspaper notices, required for the SIP submittal.

(i) The owner and operator of a facility proposing to comply with the applicable RACT requirement or RACT emission limitation under subsection (a), (b) or (c) through the installation of an air cleaning device may submit a petition, in writing, requesting an alternative compliance schedule in accordance with the following:

(1) The written petition requesting an alternative compliance schedule shall be submitted to the Department or appropriate approved local air pollution control agency as soon as possible but not later than:

(i) October 24, 2016, for a source subject to § 129.96(a).

(ii) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO_x emitting facility, whichever is later, for a source subject to § 129.96(b).

(2) The written petition must include:

(i) A description, including make, model and location, of each air contamination source subject to a RACT requirement or RACT emission limitation in one or more of subsections (a)—(c).

(ii) A description of the proposed air cleaning device to be installed.

(iii) A schedule containing proposed interim dates for completing each phase of the required work to install the air cleaning device described in subparagraph (ii).

(iv) A proposed interim emission limitation that will be imposed on the affected air contamination source until compliance is achieved with the applicable RACT requirement or RACT emission limitation.

(v) A proposed final compliance date that is as soon as possible but not later than 3 years after the approval of the petition by the Department or the appropriate approved local air pollution control agency. If the petition is for the replacement of an existing source, the final

compliance date will be determined on a case-by-case basis. The approved petition shall be incorporated in an applicable operating permit or plan approval.

(j) The Department or appropriate approved local air pollution control agency will review the timely and complete written petition requesting an alternative compliance schedule submitted in accordance with subsection (i) and approve or deny the petition in writing.

(k) The emission limit and requirements specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (j) supersede the emission limit and requirements in the existing plan approval or operating permit issued to the owner or operator of the source prior to April 23, 2016, on the date specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (j), except to the extent the existing plan approval or operating permit contains more stringent requirements.

(l) Approval or denial under subsection (j) of the timely and complete petition for an alternative compliance schedule submitted under subsection (i) will be effective on the date the letter of approval or denial of the petition is signed by the authorized representative of the Department or appropriate approved local air pollution control agency.

§ 129.100. Compliance demonstration and recordkeeping requirements.

(a) Except as provided in subsection (c), the owner and operator of an air contamination source subject to a NO_x requirement or RACT emission limitation or VOC requirement or RACT emission limitation, or both, listed in § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation by performing the following monitoring or testing procedures:

(1) For an air contamination source with a CEMS, monitoring and testing in accordance with the requirements of Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources) using a 30-day rolling average, except municipal waste combustors.

(i) A 30-day rolling average emission rate for an air contamination source that is a combustion unit shall be expressed in pounds per million Btu and calculated in accordance with the following procedure:

(A) Sum the total pounds of pollutant emitted from the combustion unit for the current operating day and the previous 29 operating days.

(B) Sum the total heat input to the combustion unit in million Btu for the current operating day and the previous 29 operating days.

(C) Divide the total number of pounds of pollutant emitted by the combustion unit for the 30 operating days by the total heat input to the combustion unit for the 30 operating days.

(ii) A 30-day rolling average emission rate for each applicable RACT emission limitation shall be calculated for an affected air contamination source for each consecutive operating day.

(iii) Each 30-day rolling average emission rate for an affected air contamination source must include the emis-

sions that occur during the entire operating day, including emissions from start-ups, shutdowns and malfunctions.

(2) For a Portland cement kiln with a CEMS, monitoring of clinker production rates in accordance with 40 CFR 63.1350(d) (relating to monitoring requirements).

(3) For a municipal waste combustor with a CEMS, monitoring and testing in accordance with the requirements in Chapter 139, Subchapter C, using a daily average.

(4) For an air contamination source without a CEMS, monitoring and testing in accordance with a Department-approved emissions source test that meets the requirements of Chapter 139, Subchapter A (relating to sampling and testing methods and procedures). The source test shall be conducted one time in each 5-year calendar period.

(b) Except as provided in § 129.97(k) and § 129.99(i) (relating to alternative RACT proposal and petition for alternative compliance schedule), the owner and operator of an air contamination source subject to subsection (a) shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation in accordance with the procedures in subsection (a) not later than:

(1) January 1, 2017, for a source subject to § 129.96(a) (relating to applicability).

(2) January 1, 2017, or 1 year after the date that the source meets the definition of a major NO_x emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(c) An owner or operator of an air contamination source subject to this section, §§ 129.96 and 129.97 and § 129.98 (relating to facility-wide or system-wide NO_x emissions averaging plan general requirements) may request a waiver from the requirement to demonstrate compliance with the applicable emission limitation listed in § 129.97 if the following requirements are met:

(1) The request for a waiver is submitted, in writing, to the Department not later than:

(i) October 24, 2016, for a source subject to § 129.96(a).

(ii) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO_x emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(2) The request for a waiver demonstrates that a Department-approved emissions source test was performed in accordance with the requirements of Chapter 139, Subchapter A, on or after:

(i) April 23, 2015, for a source subject to § 129.96(a).

(ii) April 23, 2015, or within 12 months prior to the date that the source meets the definition of a major NO_x emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(3) The request for a waiver demonstrates to the satisfaction of the Department that the test results show that the source's rate of emissions is in compliance with the source's applicable NO_x emission limitation or VOC emission limitation.

(4) The Department approves, in writing, the request for a waiver.

(d) The owner and operator of an air contamination source subject to this section and §§ 129.96—129.99 shall

keep records to demonstrate compliance with §§ 129.96—129.99 in the following manner:

(1) The records must include sufficient data and calculations to demonstrate that the requirements of §§ 129.96—129.99 are met.

(2) Data or information required to determine compliance shall be recorded and maintained in a time frame consistent with the averaging period of the requirement.

(e) Beginning with the compliance date specified in § 129.97(a), the owner or operator of an air contamination source claiming that the air contamination source is exempt from the applicable NO_x emission rate threshold specified in § 129.99(b) and the requirements of § 129.97 based on the air contamination source's potential to emit shall maintain records that demonstrate to the Department or appropriate approved local air pollution control agency that the air contamination source is not subject to the specified emission rate threshold.

(f) Beginning with the compliance date specified in § 129.97(a), the owner or operator of an air contamination source claiming that the air contamination source is exempt from the applicable VOC emission rate threshold specified in § 129.99(c) and the requirements of § 129.97 based on the air contamination source's potential to emit shall maintain records that demonstrate to the Department or appropriate approved local air pollution control agency that the air contamination source is not subject to the specified emission rate threshold.

(g) The owner or operator of a combustion unit subject to § 129.97(b) shall record each adjustment conducted

under the procedures in § 129.97(b). This record must contain, at a minimum:

(1) The date of the tuning procedure.

(2) The name of the service company and the technician performing the procedure.

(3) The final operating rate or load.

(4) The final NO_x and CO emission rates.

(5) The final excess oxygen rate.

(6) Other information required by the applicable operating permit.

(h) The owner or operator of a Portland cement kiln subject to § 129.97(h) shall maintain a daily operating log for each Portland cement kiln. The record for each kiln must include:

(1) The total hours of operation.

(2) The type and quantity of fuel used.

(3) The quantity of clinker produced.

(4) The date, time and duration of a start-up, shutdown or malfunction of a Portland cement kiln or emissions monitoring system.

(i) The records shall be retained by the owner or operator for 5 years and made available to the Department or appropriate approved local air pollution control agency upon receipt of a written request from the Department or appropriate approved local air pollution control agency.

[Pa.B. Doc. No. 16-694. Filed for public inspection April 22, 2016, 9:00 a.m.]

ALLEGHENY COUNTY HEALTH DEPARTMENT
BUREAU OF ENVIRONMENTAL QUALITY
Division of Air Quality

IN RE:

Duquesne Light Company)	PLAN APPROVAL ORDER
Brunot Island Power Station)	AND AGREEMENT No. 214
c/o 411 Seventh Avenue)	<u>UPON CONSENT</u>
Box 1930)	
Allegheny County)	
Pittsburgh, PA 15230)	

AND NOW, this 20th day of May, 1996,

WHEREAS, the Allegheny County Health Department, Bureau of Environmental Quality, Division of Air Quality (hereafter referred to as "Bureau"), has determined that the Duquesne Light Company (hereafter referred to as "DLCo"), 411 Seventh Avenue, Box 1930, Pittsburgh, Allegheny County, PA 15230, as the operator and the owner of a steam generation facility at Brunot Island, Ohio River, Allegheny County, PA 15081 (hereafter referred to as either "the facility" or "Brunot Island Power Station"), is a major stationary source of oxides of nitrogen (hereafter referred to as "NO_x") emissions as defined in Section 2101.20 of Article XXI, Rules and Regulations of the Allegheny County Health Department, Air Pollution Control (hereafter referred to as "Article XXI"); and

WHEREAS, the Bureau has determined that Section 2105.06.a. of Article XXI, entitled "Major NO_x & Volatile organic compounds"

is applicable to DLCo's operations; and

WHEREAS, DLCo has been in full compliance at all relevant times with all relevant requirements of Section 2105.06 of Article XXI; and

WHEREAS, DLCo has timely submitted to the Bureau all of the documents required by Section 2105.06.b of Article XXI (hereafter collectively referred to as "the Proposal"); and

WHEREAS, the Bureau has determined, after review, that the Proposal is complete; and

WHEREAS, the Bureau has further determined, after review, that the Proposal, constitutes Reasonably Available Control Technology (hereafter referred to as "RACT") for control of NO_x emissions from the facility; and

WHEREAS, the Bureau and DLC desire to memorialize the details of the Proposal by entry of this RACT Plan Approval Order and Agreement Upon Consent; and

WHEREAS, pursuant to Section 2109.03 of Article XXI, the Director of the Allegheny County Health Department or his designated representative may issue such orders as are necessary to aid in the enforcement of the provisions of Article XXI,

notwithstanding the absence of any violation of any provision of Article XXI and of any condition causing, contributing to, or creating danger of air pollution;

NOW, THEREFORE, this day first written above, the Bureau, pursuant to Section 2109.03 of Article XXI, and upon agreement of the parties as hereinafter set forth, hereby issues the following RACT Plan Approval Order and Agreement upon Consent:

I. ORDER

- 1.1 At no time shall DLCo operate units 2A, 2B or 3 in combined combustion cycle (hereafter referred to as "CCC") mode at the facility without a properly installed and operating water/steam injection NO_x control system in place at these units. In the event that DLCo suspends refurbishment of units 2A, 2B or 3 for a period of more than twelve (12) consecutive months, DLCo shall then re-submit to the Bureau, for its review and approval, an updated NO_x RACT analysis for the facility, prior to operating units 2A, 2B or 3 in CCC mode. The analysis shall be submitted to the Pennsylvania Department of Environmental Protection and the U.S. EPA.

- 1.2 At no time shall DLCo operate units 2A, 2B, or 3 in CCC

mode at the facility without a properly installed and operating NO_x Continuous Emissions Monitoring System or an approved alternate, (hereafter referred to as "CEM"), meeting all requirements of Section 2108.03 of Article XXI.

- 1.3 At no time shall DLCo allow units 2A, 2B or 3, when operating in CCC mode, to exceed the following NO_x emission limitations and annual average capacity limitations:

CCC MODE:

	NO _x Emissions	Maximum Annual Capacity Factor	
<u>Unit:</u>	<u>Lbs/MMBTU</u>	<u>Tons/Yr</u>	<u>%</u>
2A	0.25	1039	100%
2B	0.25	1039	100%
3	0.25	1039	100%

DLCo shall determine compliance with these immediately above-referenced Lbs/MMBTU emission limitations for CCC mode of operation by using CEM data averaged over a twenty-four (24) hour period. DLCo shall determine compliance with the immediately above-referenced tons per year emission limitations for CCC mode of operation by using annual CEMs data.

1.4. At no time shall DLCo allow units 1A, 1B, 1C, 2A, 2B or 3 to exceed the following NO_x emission limitations and annual average capacity limitations when operating in Simple Combustion Cycle (hereafter referred to as "SCC") mode:

SCC MODE:

<u>Unit:</u>	<u>NO_x Emissions</u>	<u>Maximum Annual Capacity Factor</u>	
	<u>Lbs/MMBTU</u>	<u>Tons/Yr</u>	<u>%</u>
1A	0.698	330	36%
1B	0.698	330	36%
1C	0.698	330	36%
2A	0.698	662	23%
2B	0.698	662	23%
3	0.698	662	23%

1.5. DLCo shall conduct initial NO_x emission tests on units 1A, 1B, 1C, 2A, 2B and 3 while operating in SCC mode. The initial tests shall be completed by December 31, 1996 and be conducted according to all applicable U.S. EPA approved test methods and Section 2108.02 of Article XXI.

1.6. DLCo shall record fuel usage and fuel analyses data in order to determine compliance with the established NO_x emission limitations for units 1A, 1B, 1C, 2A, 2B and 3 while operating in SCC mode. Subsequent NO_x emission tests shall be conducted within six (6) months

following any consecutive twelve (12) month period where the consecutive twelve (12) combined average capacity factor of all units operating in SCC mode is greater than 3.5%. The subsequent tests shall be conducted on all units operating in SCC mode according to all applicable U.S. EPA approved test methods and Section 2108.02 of Article XXI.

NO SIP

1.7. The Bureau reserves the right to issue amended NO_x Lbs per MMBTU and tons per year emission limitations and annual capacity limitations for CCC mode of operation for the facility upon analysis of actual CEM data and for SCC mode of operation upon analysis of initial emission test data from the facility. The amended NO_x emission limitations shall be submitted as a source specific revision to the Commonwealth of Pennsylvania State Implementation Plan (hereafter referred to as "SIP").

1.8. DLCo shall maintain all appropriate records to demonstrate compliance with the requirements of both Section 2105.06 of Article XXI and this Order. Such records shall provide sufficient data and calculations to demonstrate that all requirements of Section 2105.06 of Article XXI and this Order are

being met. DLCo shall record and maintain such data and information required to determine compliance for the facility in a time frame consistent with the averaging period of the requirements of both Section 2105.06 of Article XXI and this Order. Such records shall include, but not be limited to, the following:

- i.) For CCC mode of operation, all NO_x CEM recording and reporting requirements in accordance with Section 2108.03 of Article XXI.

1.9. DLCo shall retain all records required by both Section 2105.06 of Article XXI and this Order for the facility for at least two (2) years and shall make the same available to the Bureau upon request.

1.10. DLCo shall at all times properly operate and maintain all process and emission control equipment at the facility according to good engineering practice.

II. AGREEMENT

The foregoing Plan Approval Order shall be enforced in accordance with and is subject to the following agreement of the parties, to wit:

2.1. The contents of this Order shall be submitted to the U.S. EPA as a revision to the Commonwealth of Pennsylvania's SIP.

2.2. Failure to comply with any portion of this Order or Agreement is a violation of Article XXI that may subject DLCo to criminal and civil proceedings, including injunctive relief, by the Bureau.

2.3. This Order does not, in any way, preclude, limit or otherwise affect any other remedies available to the Bureau for violations of this Order or of Article XXI, including, but not limited to, actions to require the installation of additional pollution control equipment and the implementation of additional corrective operating practices.

2.4. DLCo hereby consents to the foregoing Order and hereby knowingly waives all rights to appeal said Order, and except as provided here and, after the

undersigned represents that he is authorized to consent to the Order and to enter into the RACT Plan Approval Order and Agreement Upon Consent on behalf of DLCo. DLCo hereby reserves its rights of appeal, pursuant to Article XXI, Rules and Regulations of the Allegheny County Health Department, Hearing and Appeals, for any Bureau decision made: 1.) pursuant to paragraph 1.1 of this Order portion of this RACT Plan Order and Agreement or; 2.) to amend any NO_x emission limitation(s) referenced in paragraphs 1.3 and 1.4 of the Order portion of this RACT Plan Approval Order and Agreement.

2.5. DLCo acknowledges and understands that the purpose of this Agreement is to establish RACT for the control of emissions of NO_x from this facility. DLCo further acknowledges and understands the possibility that the U.S. EPA may decide to not accept the Agreement portion of this RACT Plan Approval Order and Agreement by Consent as a revision to the Commonwealth of Pennsylvania's SIP.

NO
SIP

IN WITNESS WHEREOF, and intending to be legally bound,
the parties hereby consent to all of the terms and conditions of
the foregoing Order and Agreement as of the date of the above
written.

DUQUESNE LIGHT COMPANY
By: Thomas D. Jones
(signature)

Print or type Name: Thomas D. Jones

General Manager,
Title: Fossil Generation Unit

Date: March 22, 1996

ALLEGHENY COUNTY HEALTH DEPARTMENT
By: Bruce W. Dixon 7/20/96

Bruce W. Dixon, M.D., Director
Allegheny County Health Department

and By: Ronald J. Chleboski
Ronald J. Chleboski, Deputy Director
Bureau of Environmental Quality



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

Minor Source/Minor Modification
INSTALLATION PERMIT

Issued To: **Brunot Island Generating Station**
Brunot Island
Pittsburgh, PA

ACHD Permit#: **0056-I002**

Date of Issuance: **February 28, 2020**

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

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

Prepared By: 
David D. Good
Air Quality Engineer

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AMENDMENTS:

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

Facility Location:	Brunot Island Generating Station Brunot Island Pittsburgh, PA
Permittee/Owner:	Brunot Island Power LLC P.O. Box 99907 Pittsburgh, PA 1533-0907
Responsible Official:	Kevin P. Panzino
Title:	Plant Manager
Company:	GenOn Power Midwest LP
Address:	Cheswick Generating Station P.O. Box 65 Cheswick, PA 15024
Telephone Number:	724-275-1401
E-Mail Address:	Kevin.Panzino@genon.com
Facility Contact:	William McGraw
Title:	Environmental and Safety Manager
Telephone Number:	724-275-1595
Mobilie Number:	724-333-2310
E-mail Address:	William.McGraw@genon.com
Alternate Responsible Official:	Mark Gouveia
Title:	Senior Vice President, Plant Operations
Company:	GenOn Energy, Inc.
Address:	Cheswick Generating Station P.O. Box 65 Cheswick, PA 15024
Telephone Number:	301-843-4555
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

The Brunot Island Power LLC, Brunot Island Generating Station is a commercial electrical power generation facility. The source is composed of one 22 MW base rating no.2 fuel oil-fired simple cycle combustion turbine and three 63 MW base rating natural gas fired combined cycle combustion turbines. Each combined cycle turbine is equipped with a heat recovery steam generator (HRSG) that is supplied with duct burners rated at 240 MMBtu. The simple cycle combustion turbine has no emission controls and the combined cycle units are equipped with selective catalytic reduction (SCR) and water injection for NO_x control. Additional emission units consist of one 84,000 gallon per minute cooling tower, two 765,810 gallon above ground storage tanks (ASTs) for no. 2 fuel oil, and one 20,500 gallon aqueous ammonia AST. The facility is a major source of particulate matter (PM), particulate matter < 10 microns in diameter (PM₁₀), particulate matter < 2.5 microns in diameter (PM_{2.5}), nitrogen oxides (NO_x), sulfur dioxide (SO₂), and an area source of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) as defined in section 2101.20 of Article XXI.

INSTALLATION DESCRIPTION

This installation permit is for inclusion of physical and operational conditions for subject facilities pursuant to Reasonable Available Control Technology (RACT) in section 2105.06 of Article XXI. There are no new units being added to the facility as part of this permitting action.

The emission units regulated by this permit are summarized in Table II-1:

TABLE II-1: Emission Unit Identification

I.D.	SOURCE DESCRIPTION	CONTROL DEVICE(S)	MAXIMUM CAPACITY	FUEL/RAW MATERIAL	STACK I.D.
1A	Combustion Turbine in Simple Cycle Mode	None	22 MW base - 300 x 10 ⁶ btu/hr	No.2 Fuel Oil	S-007
2A	Combustion Turbine and HRSG in Combined Cycle Mode	Water injection with SCR	63 MW base - 918 x 10 ⁶ btu/hr	Natural Gas	S-001/2
2B	Combustion Turbine and HRSG in Combined Cycle Mode	Water injection with SCR	63 MW base - 918 x 10 ⁶ btu/hr	Natural Gas	S-003/4
3	Combustion Turbine and HRSG in Combined Cycle Mode	Water injection with SCR	63 MW base - 918 x 10 ⁶ btu/hr	Natural Gas	S-005/6

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 within 30 days of the end of the calendar half.
- e. Quarterly reports required by this permit shall be submitted to the Department within 30 days of the end of the calendar quarter.
- f. Reports may be emailed to the Department at aqreports@achd.net 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.

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 insure 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. 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.

19. 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.

20. 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.

21. 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*, CFR Part 63, Subpart UUUUU – *National Emission Standards for Hazardous Air Pollutants for Coal- and Oil-Fired electric Utility Steam Generating Units*, and CFR Part 63, Subpart ZZZZ – *National Emission Standards for Stationary Reciprocating Internal Combustion Engines*.

22. NO_x Emissions Averaging Plan

- a. 25 Pa. Code §129.97 - Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule. The following Sources are included in a NO_x Averaging Plan: CHESWICK MAIN BOILER NO. 1, CHESWICK AUXILIARY BOILER, BRUNOT ISLAND COMBUSTION TURBINES 2A, 2B AND 3, and BRUNOT ISLAND COMBUSTION TURBINE 1A unless or until ownership or operation is separated or until an application to terminate the plan and modify the respective permits is received by the Department.
 - 1) The owner and operator of a source listed in one or more of subsections (b)—(h) of 25 Pa. Code §129.97 located at a major NO_x emitting facility or major VOC emitting facility subject to §129.96 (relating to applicability) shall comply with the applicable presumptive RACT requirement or RACT emission limitation, or both, beginning with the specified compliance date as follows, unless an alternative compliance schedule is submitted and approved under subsections (k)—(m) of 25 Pa. Code §129.97 or §129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule):
 - a) January 1, 2017, for a source subject to §129.96(a).

- b) January 1, 2017, or 1 year after the date the source meets the definition of a major NO_x emitting facility or major VOC emitting facility, whichever is later, for a source subject to §129.96(b).
- 2) Except as specified under subsection (c) of 25 Pa. Code §129.97, the owner and operator of a NO_x air contamination source specified in this subsection, which is located at a major NO_x emitting facility or a VOC air contamination source specified in this subsection, which is located at a major VOC emitting facility subject to §129.96 may not cause, allow or permit NO_x or VOCs to be emitted from the air contamination source in excess of the applicable presumptive RACT emission limitation:
 - a) A combustion unit or process heater:
 - i) For a natural gas-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour, 0.10 lb NO_x/million Btu heat input. [CHESWICK MAIN BOILER NO. 1]
 - ii) For a distillate oil-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour, 0.12 lb NO_x/million Btu heat input. [CHESWICK AUXILIARY BOILER]
 - iii) For a coal-fired combustion unit with a rated heat input equal to or greater than 250 million Btu/hour that is:
 - (1) A tangentially fired combustion unit, 0.35 lb NO_x/million Btu heat input. [CHESWICK MAIN BOILER NO. 1]
 - iv) For a coal-fired combustion unit with a selective catalytic reduction system operating with an inlet temperature equal to or greater than 600°F, 0.12 lb NO_x/million Btu heat input. Compliance with this emission limit is also required when by-passing the selective catalytic reduction system. [CHESWICK MAIN BOILER NO. 1]
 - b) A combustion turbine:
 - i) For a combined cycle or combined heat and power combustion turbine with a rated output equal to or greater than 1,000 bhp and less than 180 MW when firing:
 - (1) Natural gas or a noncommercial gaseous fuel, 42 ppmvd NO_x @ 15% oxygen. [BRUNOT ISLAND COMBUSTION TURBINES 2A, 2B AND 3; EQUIVALENT TO 0.155 lb/mmBtu]
 - (2) Natural gas or a noncommercial gaseous fuel, 5 ppmvd VOC (as propane) @ 15% oxygen.
 - ii) For a simple cycle or regenerative cycle combustion turbine with a rated output equal to or greater than 6,000 bhp when firing:
 - (1) Fuel oil, 96 ppmvd NO_x @ 15% oxygen. [BRUNOT ISLAND COMBUSTION TURBINE 1A; EQUIVALENT TO 0.37 lb/mmBtu]
 - (2) Fuel oil, 9 ppmvd VOC (as propane) @ 15% oxygen.

- c) A unit firing multiple fuels: [CHESWICK MAIN BOILER NO. 1]
- i) The applicable RACT multiple fuel emission limit shall be determined on a total heat input fuel weighted basis using the following equation:

$$E_{HI\text{weighted}} = \frac{\sum_{i=1}^n E_i H_{II}}{\sum_{i=1}^n H_{II}} \text{ \{Equation 2\}}$$

Where:

$E_{HI\text{weighted}}$ = The heat input fuel weighted multiple fuel emission rate or emission limitation for the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.

E_i = The emission rate or emission limit for fuel i during the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.

H_{II} = The total heat input for fuel i during the compliance period.

n = The number of different fuels used during the compliance period.

- ii) A fuel representing less than 1% of the unit's annual fuel consumption on a heat input basis is excluded when determining the applicable RACT multiple fuel emission limit calculated in accordance with subparagraph (i).
- 3) The requirements and emission limitations of this section supersede the requirements and emission limitations of a RACT permit issued to the owner or operator of an air contamination source subject to one or more of subsections (b)—(h) of 25 Pa. Code §129.97 prior to April 23, 2016, under § §129.91—129.95 (relating to stationary sources of NO_x and VOCs) to control, reduce or minimize NO_x emissions or VOC emissions, or both, from the air contamination source unless the permit contains more stringent requirements or emission limitations, or both.
- 4) The requirements and emission limitations of this section supersede the requirements and emission limitations of § §129.201—129.205, 145.111—145.113 and 145.141—145.146 (relating to additional NO_x requirements; emissions of NO_x from stationary internal combustion engines; and emissions of NO_x from cement manufacturing) unless the requirements or emission limitations of § §129.201—129.205, § §145.111—145.113 or § §145.141—145.146 are more stringent.
- b. 25 Pa. Code §129.98 - Facility-wide or system-wide NO_x emissions averaging plan general requirements.
- 1) The owner or operator of a major NO_x-emitting facility subject to 25 Pa. Code §129.96 (relating to applicability) that includes at least one air contamination source subject to a NO_x RACT emission limitation in 25 Pa. Code §129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) that cannot meet the applicable NO_x RACT emission limitation may elect to meet the applicable NO_x RACT emission limitation in 25 Pa. Code §129.97 by averaging NO_x

emissions on either a facility-wide or system-wide basis using a 30-day rolling average. System-wide emissions averaging must be among sources under common control of the same owner or operator within the same ozone nonattainment area in this Commonwealth. [NOTE: THE CHESWICK STATION AND THE BRUNOT ISLAND STATION ARE BOTH UNDER COMMON OWNERSHIP. THE EMISIONS UNITS INCLUDED IN THE SYSTEM-WIDE NO_x EMISSIONS AVERAGING PLAN ARE THE MAIN BOILER NO. 1 AND THE AUXILIARY BOILER AT CHESWICK AND COMBUSTION TURBINES 1A, 2A, 2B AND 3 AT BRUNOT ISLAND.]

- 2) The owner or operator of each facility that elects to comply with part §129.98(a) shall submit a written NO_x emissions averaging plan to the Department or appropriate approved local air pollution control agency as part of an application for an operating permit modification or a plan approval, if otherwise required. The application incorporating the requirements of this section (25 Pa. Code §129.98) shall be submitted by the applicable date as follows:
 - a) October 24, 2016, for a source subject to 25 Pa. Code §129.96(a).
 - b) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO_x emitting facility, whichever is later, for a source subject to §129.96(b).
- 3) Each NO_x air contamination source included in the application for an operating permit modification or a plan approval, if otherwise required, for averaging NO_x emissions on either a facility-wide or system-wide basis using a 30-day rolling average submitted under part §129.98(b) must be an air contamination source subject to a NO_x RACT emission limitation in 25 Pa. Code §129.97.
- 4) The application for the operating permit modification or the plan approval, if otherwise required, for averaging NO_x emissions on either a facility-wide or system-wide basis using a 30-day rolling average submitted under part §129.98(b) must demonstrate that the aggregate NO_x emissions emitted by the air contamination sources included in the facility-wide or system-wide NO_x emissions averaging plan using a 30-day rolling average are not greater than the NO_x emissions that would be emitted by the group of included sources if each source complied with the applicable NO_x RACT emission limitation in 25 Pa. Code §129.97 on a source-specific basis.
- 5) The owner or operator shall calculate the alternative facility-wide or system-wide NO_x RACT emissions limitation using a 30-day rolling average for the air contamination sources included in the application for the operating permit modification or plan approval, if otherwise required, submitted under part §129.98(b) by using the following equation to sum the emissions for all of the sources included in the NO_x emissions averaging plan:

$$\left[\sum n_i = 1(E_{i_{actual}}) \right] \leq \left[\sum n_i = 1(E_{i_{allowable}}) \right]$$

Where:

n = The number of air contamination sources included in the NO_x emissions averaging plan

$E_{i_{actual}}$ = The actual NO_x mass emissions, including emissions during startups, shutdowns and malfunctions, for air contamination source "i" on a 30-day rolling basis

$E_{i_{allowable}}$ = The allowable NO_x mass emissions computed using the allowable emission rate limitations for air contamination source "i" on a 30-day rolling basis specified in 25 Pa. Code §129.97. If an air contamination source included in an averaging plan is subject to a numerical emission rate limit that is more stringent than the applicable allowable

emission rate limitation in 25 Pa. §129.97, then the numerical emission rate limit shall be used for the calculation of the allowable NO_x mass emissions.

- 6) The application for the operating permit modification or a plan approval, if otherwise required, specified in parts §129.98(b) through §129.98(e) may include facility-wide or system-wide NO_x emissions averaging using a 30-day rolling average only for NO_x-emitting sources or NO_x-emitting facilities that are owned or operated by the applicant.
- 7) The owner or operator of an air contamination source or facility included in the facility-wide or system-wide NO_x emissions averaging plan submitted in accordance with parts §129.98(b) through §129.98(h) shall submit the reports and records specified in 25 Pa. Code §129.98(g)(3) to the Department or appropriate approved local air pollution control agency on the schedule specified in 25 Pa. Code §129.98(g)(3) to demonstrate compliance with 25 Pa. Code §129.100.
- 8) The owner or operator of an air contamination source or facility included in a facility-wide or system-wide NO_x emissions averaging plan submitted in accordance with parts §129.98(b) through §129.98(h) that achieves emission reductions in accordance with other emission limitations required under the act or the Clean Air Act, or regulations adopted under the act or the Clean Air Act, that are not NO_x RACT emission limitations may not substitute those emission reductions for the emission reductions required by the facility-wide or system-wide NO_x emissions averaging plan submitted to the Department or appropriate approved local air pollution control agency under part §129.98(b).
- 9) The owner or operator of an air contamination source subject to a NO_x RACT emission limitation in 25 Pa. Code §129.97 that is not included in a facility-wide or system-wide NO_x emissions averaging plan submitted under part §129.98(b), shall operate the source in compliance with the applicable NO_x RACT emission limitation in 25 Pa. Code §129.97.
- 10) The owner and operator of the air contamination sources included in a facility-wide or system-wide NO_x emissions averaging plan submitted under part §129.98(b) shall be liable for a violation of an applicable NO_x RACT emission limitation at each source included in the NO_x emissions averaging plan.
- 11) Calculation of the Allowable NO_x Emissions ($E_{i_{allowable}}$)

- a) For the GenOn Cheswick Main Boiler No 1, the following equation (Equation 3) will be used to calculate Daily $E_{i_{allowableM}}$ (in lbs):

$$\text{Daily } E_{i_{allowableM}} = [\sum ni = 1(Z)(C_1) + (X)(C_2) + (G)(C_3)] \text{ \{Equation 3\}}$$

Where:

Daily $E_{i_{allowableM}}$ = The daily allowable NO_x mass emissions for the GenOn Cheswick Main Boiler No. 1 computed using the allowable emission rate limitations for air contamination source "i" specified in 25 Pa. Code §129.97,

n = The number of operating hours in the day,

Z = 0.12 lb NO_x/mmBTU,

C₁ = The hourly heat input for coal-firing operations when SCR inlet T ≥ 600°F, expressed in units of mmBTU,

X = 0.35 lb NO_x/mmBTU,

C₂ = The hourly heat input for coal-firing operations when SCR inlet T < 600°F, expressed in units of mmBTU,

G = 0.10 lb NO_x/mmBTU,

C₃ = The hourly heat input for gas-firinig operations, expressed in units of mmBTU,

The hourly heat inputs (C₁, C₂, and C₃) shall be determined using fuel F-factors pursuant to 40 CFR Part 75, Appendix F, 40 CFR Part 60, and Appendix A, Method 19 and the data

from the certified flue gas monitor. The SCR inlet temperature shall be continuously monitored for the Main Boiler No. 1.

- b) For the Cheswick Auxiliary Boiler, the following equation (Equation 4) will be used to calculate Daily $E_{i_{allowableA}}$ (in lbs.):

$$\text{Daily } E_{i_{allowableA}} = [(Y)(FO)] \text{ \{Equation 4\}}$$

Where:

Daily $E_{i_{allowableA}}$ = The daily allowable NO_x mass emissions for the Cheswick Auxiliary Boiler computed using the allowable emission rate limitations for air contamination source "i" specified in 25 Pa. Code §129.97.,

Y = 0.12 lb NO_x/mmBTU,

FO = The daily total heat input for No. 2 Fuel Oil, expressed in units of mmBTU

- c) For the Brunot Island Combustion Turbine 1A, the following equation (Equation 5) will be used to calculate Daily $E_{i_{allowableBI1A}}$ (in lbs):

$$\text{Daily } E_{i_{allowableBI1A}} = [(W)(FO)] \text{ \{Equation 5\}}$$

Where:

Daily $E_{i_{allowableBI1A}}$ = The daily allowable NO_x mass emissions for the Brunot Island Combustion Turbine 1A computed using the allowable emission rate limitations for air contamination source "i" specified in 25 Pa. Code §129.97,

W = 0.37 lb NO_x/mmBTU (equivalent to 96 ppmvd NO_x @ 15% oxygen),

FO = The daily total heat input for No. 2 Fuel Oil, expressed in units of mmBTU,

The daily heat inputs shall be determined using fuel F-factors pursuant to 40 CFR Part 75, Appendix F, 40 CFR Part 60, Appendix A, Method 19, and fuel use records

- d) For each Brunot Island Combustion Turbines 2A, 2B & 3, the following equation (Equation 6) will be used to calculate Daily $E_{i_{allowableM}}$ (in lbs) for each turbine:

$$\text{Daily } E_{i_{allowableBI[2A,2B,3]}} = [\sum n_i = 1(U)(G_1) + (V)(G_2)] \text{ \{Equation 6\}}$$

Where:

Daily $E_{i_{allowableBI[2A,2B,3]}}$ = The daily allowable NO_x mass emissions for the Brunot Island Turbines 2A, 2B & 3 computed using the allowable emission rate limitations for air contamination source "i" specified in 25 Pa. Code §129.97,

n = The number of operating hours in the day,

U = 0.155 lb NO_x/mmBTU (Equivalent to 42 ppmvd NO_x @ 15% oxygen),

G₁ = The hourly heat input for operation when combustion turbine output is <60% load, expressed in units of mmBTU,

V = 0.013 lb NO_x/mmBTU (Equivalent to 3.5 ppmvd NO_x @ 15% oxygen),

G₂ = Hourly heat input for operation when combustion turbine output is > 60% load, expressed in units of mmBTU,

The hourly heat inputs (G₁ & G₂) shall be determined using measurements and fuel F-factors pursuant to 40 CFR Part 75, Appendix F, 40 CFR Part 60, and Appendix A, Method 19 and fuel use records.

- e) The following equation (Equation 7) will be used to calculate Daily $E_{i\text{allowable}}$:

$$\text{Daily } E_{i\text{allowable}} = \text{Daily } E_{i\text{allowable}M} + \text{Daily } E_{i\text{allowable}A} + \text{Daily } E_{i\text{allowable}BI1A} + \text{Daily } E_{i\text{allowable}BI2} + \text{Daily } E_{i\text{allowable}BI2A} + \text{Daily } E_{i\text{allowable}BI3} \text{ \{Equation 7\}}$$

- f) The 30-day rolling system-wide allowable NO_x mass emissions ($E_{i\text{allowable}}$) are calculated by summing the allowable NO_x mass emissions for the Cheswick Main Boiler No. 1, Cheswick Auxiliary Boiler (limited to a rolling 12-month capacity factor of 10%), Brunot Island Combustion Turbine 1A (limited to a rolling 12-month capacity factor of 36%), Brunot Island Combustion Turbine 2A, Brunot Island Combustion Turbine 2B and Brunot Island Combustion Turbine 3 for each operating day (Daily $E_{i\text{allowable}}$) and the previous 29 operating days. An operating day is a day in which any of the units in the plan combust fuel.

12) Comparison of $E_{i\text{actual}}$ to $E_{i\text{allowable}}$

- a) Beginning on January 1, 2017, the permittee shall demonstrate compliance with the alternative system-wide NO_x RACT emissions limitation using a 30-day rolling average by comparing $E_{i\text{actual}}$ to $E_{i\text{allowable}}$ for each system operating day.
- b) For each 30-day rolling period in which $E_{i\text{actual}}$ exceeds $E_{i\text{allowable}}$, the permittee shall be liable for a violation of the applicable NO_x RACT emission limitation at each of the units included in the system-wide NO_x emissions averaging plan pursuant to 25 Pa. Code §129.98(m).

c. 25 Pa. Code §129.100 – Compliance demonstration and recordkeeping requirements.

- 1) Except as provided in subsection (c) of 25 Pa. Code §129.100, the owner and operator of an air contamination source subject to a NO_x RACT requirement or RACT emission limitation or VOC RACT requirement or RACT emission limitation, or both, listed in § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation by performing the following monitoring or testing procedures:

- a) For an air contamination source with a CEMS, monitoring and testing in accordance with the requirements of Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources) using a 30-day rolling average, except municipal waste combustors.

- i) A 30-day rolling average emission rate for an air contamination source that is a combustion unit shall be expressed in pounds per million Btu and calculated in accordance with the following procedure:

- (1) Sum the total pounds of pollutant emitted from the combustion unit for the current operating day and the previous 29 operating days.
- (2) Sum the total heat input to the combustion unit in million Btu for the current operating day and the previous 29 operating days.
- (3) Divide the total number of pounds of pollutant emitted by the combustion unit for the 30 operating days by the total heat input to the combustion unit for the 30 operating days.

- ii) A 30-day rolling average emission rate for each applicable RACT emission limitation shall be calculated for an affected air contamination source for each consecutive operating day.
 - iii) Each 30-day rolling average emission rate for an affected air contamination source must include the emissions that occur during the entire operating day, including emissions from start-ups, shutdowns and malfunctions.
- b) For an air contamination source without a CEMS, monitoring and testing in accordance with a Department-approved emissions source test that meets the requirements of Chapter 139, Subchapter A (relating to sampling and testing methods and procedures). The source test shall be conducted one time in each 5-year calendar period.
- 2) Except as provided in §129.97(k) and §129.99(i) (relating to alternative RACT proposal and petition for alternative compliance schedule), the owner and operator of an air contamination source subject to subsection (a) of 25 Pa. Code §129.100 shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation in accordance with the procedures in subsection (a) of 25 Pa. Code §129.100 not later than:
 - a) January 1, 2017, for a source subject to §129.96(a) (relating to applicability).
 - b) January 1, 2017, or 1 year after the date that the source meets the definition of a major NO_x emitting facility or major VOC emitting facility, whichever is later, for a source subject to §129.96(b).
- 3) The owner and operator of an air contamination source subject to this section and § §129.96—129.99 shall keep records to demonstrate compliance with § §129.96—129.99 in the following manner:
 - a) The records must include sufficient data and calculations to demonstrate that the requirements of § §129.96—129.99 are met.
 - b) Data or information required to determine compliance shall be recorded and maintained in a time frame consistent with the averaging period of the requirement.
- 4) The records shall be retained by the owner or operator for 5 years and made available to the Department or appropriate approved local air pollution control agency upon receipt of a written request from the Department or appropriate approved local air pollution control agency.
- 5) The permittee shall submit quarterly RACT system-wide NO_x emissions averaging reports to the Department or appropriate approved local air pollution control agency. The permittee shall also submit a copy of each quarterly RACT system-wide NO_x emissions averaging report described in this operating permit condition along with the quarterly CEMS reports. The permittee's demonstration of compliance with the system-wide NO_x emissions limit shall be included in the quarterly RACT system-wide NO_x emissions averaging report.
- 6) The quarterly RACT system-wide NO_x emissions averaging reports shall be submitted according to the following schedule:
 - a) The quarterly report for the period of January 1 - March 31 is due no later than April 30.

- b) The quarterly report for the period of April 1 - June 30 is due no later than July 30.
- c) The quarterly report for the period of July 1 - September 30 is due no later than October 30.
- d) The quarterly report for the period of October 1 - December 31 is due no later than January 30.
- e) The permittee may request, in writing, an extension of time from the Department or appropriate approved local air pollution control agency for the filing of a quarterly RACT systemwide NO_x emissions averaging report specified in part (a) of 25 Pa. Code §129.100, and the Department or appropriate approved local air pollution control agency may grant, in writing, the extension for reasonable cause.

V. EMISSION UNIT LEVEL TERMS AND CONDITIONS

A. Combustion Turbine 1A

Process Description: Simple Cycle Combustion Turbine
Facility ID: 1A
Maximum Design Rate: 300 MMBtu/hr
Fuel(s): No. 2 Fuel Oil
Control Device(s): None

1. Restrictions:

- a. The permittee shall continue to meet the conditions of Operating Permit No. 0056, in addition to the revisions in this permit. (§2102.04.b.5)
- b. Only no.2 fuel oil with a maximum sulfur content of 0.2% shall be combusted in the combustion turbine. (§2103.12.a.2.B, 25 Pa. Code §129.99)
- c. The combustion turbine shall be operated in simple cycle mode only. (§2103.12.a.2.B, 25 Pa. Code §129.99)
- d. The maximum allowable capacity factor shall not exceed 36% in any consecutive twelve months. The capacity factor is the ratio of total net electrical power generation [in units of Megawatt-hours (MWH)] for the last twelve (12) months to the Maximum Capacity of the generator [in units of Megawatts (MW)] for the same 12-month period as expressed in the following formula: (RACT Order No. 214, condition 1.4, 25 Pa. Code §129.99, 25 Pa. Code §129.97(c)(7))

$$\frac{[12\text{-month rolling power generation for all units (in MWH)]} \times 100}{[\text{Maximum electrical capacity (in MW)}] \times 8760 \text{ hrs}}$$
- e. Emissions of nitrogen oxides from unit 1A shall not exceed 96 ppmvd @ 15% oxygen (0.370 lb/MMBtu). (25 Pa. Code §129.97(g)(2)(iv)(B), 25 Pa. Code §129.99)
- f. Emissions of volatile organic compounds from unit 1A shall not exceed 9 ppmvd (as propane) @ 15% oxygen. (25 Pa. Code §129.97(g)(2)(iv)(D))
- g. Fuel oil combustion in unit 1A shall not exceed 2,200 gallons/hr or 6,937,920 gallons per consecutive twelve-month period. (§2103.12.a.2.B, 25 Pa. Code §129.99)
- h. The emissions due to operation of the simple cycle turbine 1A shall not exceed the following emission limitations: (25 Pa. Code §129.97(g)(2)(i)(B), 25 Pa. Code §129.97(g)(2)(iv)(D)), 25 Pa. Code §129.99, §2103.12.a.2.B)

TABLE V-A-1: Unit 1A Emission Limitations (with averaging plan)

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year) ¹
Nitrogen Oxides	110 ⁽²⁾	175.0
Volatile Organic Compounds	4.1	6.54

1) A year is defined as any consecutive 12-month period.

2) 30-day rolling average

- i. Compliance with the nitrogen oxides emission limitations of V.A.1.e above shall be determined through following the NO_x Emissions Averaging Plan requirements in Condition IV.22 above. (25 Pa. Code §129.98; 25 Pa. Code §129.99; 25 Pa. Code §129.100)
- j. If the NO_x Averaging Plan described in Condition IV.22 above is terminated by ownership transfer or permit application to terminate the plan, the limits in V.A.1.d, V.A.1.e, V.A.1.f, and V.A.1.h above are replaced by the following: (RACT Order No. 214, condition 1.4; Operating permit no. 1065009-000-23600; 25 Pa. Code §129.97(c)(7); 25 Pa. Code §129.99, 25 Pa. Code §129.100, §2103.12.a.2.B):
- 1) The permittee shall install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices.
 - 2) Emissions of nitrogen oxides from each unit shall not exceed 0.698 lb/MMBtu.
 - 3) Emissions of volatile organic compounds from each unit shall not exceed 0.002% of stack gas volume.
 - 4) The capacity factor of Combustion Turbine 1A shall be less than 5% in any consecutive 12-month period.

TABLE V-A-1a: Unit 1A Emission Limitations (without averaging plan)

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year) ¹
Nitrogen Oxides	209.4	45.9
Volatile Organic Compounds	9.22	2.0

1) A year is defined as any consecutive 12-month period.

- k. Emissions of nitrogen oxides from unit 1A shall not exceed 0.698 lb/MMBtu. (RACT Order No. 214, condition 1.4, 25 Pa. Code §129.99)

2. Testing Requirements:

- a. NO_x emissions testing shall be conducted within six (6) months following any consecutive twelve (12) month period where the combined average capacity factor of all units operating in simple cycle combustion mode is greater than 3.5%. The subsequent tests shall be conducted on Unit 1A operating in simple cycle mode according to U.S. EPA approved reference test methods 6C and 7E, or other method approved by the Department, and Site Level Condition IV.14 above. (RACT Order No. 214, condition 1.6, §2103.12.a.2.B, Pa. Code §129.99; 25 Pa. Code §129.100)

- b. NO_x emissions testing on the unit shall be performed at least once every five (5) years. (§2103.12.h.1, Pa. Code §129.99; 25 Pa. Code §129.100)
- c. 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, Pa. Code §129.99; 25 Pa. Code §129.100)

3. Monitoring Requirements:

- a. The permittee shall monitor the sulfur content of the fuel oil used in unit 1A each time the fuel oil is transferred into storage tanks T-001 and T-002. Sulfur content shall be determined by ASTM D 2880-71 or another method approved by the Department. Analyses by the fuel supplier of the fuel as received, using the proscribed test methods, shall be acceptable to fulfill this requirement. (§2103.12.a.2.B; RACT Order No. 214, condition 1.6, Pa. Code §129.99; 25 Pa. Code §129.100)
- b. The permittee shall install, operate, and maintain a fuel flow monitor to measure the fuel combusted by the combustion turbine. (§2103.12.a.2.B, Pa. Code §129.99; 25 Pa. Code §129.100)

4. Record Keeping Requirements:

- a. The permittee shall record fuel usage and fuel analysis data for Unit 1A while operating in SCC mode. (RACT Order No. 214, condition 1.6 §2103.12.j, 25 Pa. Code §129.100)
- b. The permittee shall keep and maintain the following data for the combustion turbine: (§2103.12.j, 25 Pa. Code §129.100)
 - 1) Fuel consumption, fuel sulfur content and hours of operation (daily, monthly, 12-month);
 - 2) The date, time, cause and the action taken to correct any malfunction (upon occurrence, monthly);
 - 3) The start-up and shutdown of the combustion turbine, including date, time and duration of each event (upon occurrence, monthly);
 - 4) Records of fuel analyses required by Condition V.A.3.a above (each shipment);
 - 5) Manufacturers specifications for the combustion turbines, duct burners and air pollution control equipment onsite;
 - 6) Records of operation, maintenance, inspection, calibration and/or replacement of combustion and control equipment;
 - 7) Stack test protocols and reports;
 - 8) Net Generation in Megawatt-hours (MWH)
- 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.h.1, 25 Pa. Code §129.100)
- d. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [§2103.12.j.2, 25 Pa. Code §129.100]

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, 25 Pa. Code §129.100)
 - 1) Monthly data required to be recorded by condition V.A.4.b above;
 - 2) Rolling 12-month total emissions for nitrogen oxides;
 - 3) Rolling twelve-month heat input totals for each combustion turbine, and
 - 4) Non-compliance information required to be recorded by condition V.A.4.c above.
- b. 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 at all times properly operate and maintain all process and emission control equipment at the facility according to good engineering practice. (RACT Order No. 214, condition 1.10, 25 Pa. Code §129.99)

B. Combustion Turbines 2A, 2B & 3

Process Description: Three GE 7000B (678 MMBtu/hr) Combustion Turbines (name plate ratings of 63 MW base), each with 240 MMBtu/hr HRSGs
Facility ID: Units 2A, 2B & 3
Capacity: 918 MMBtu/hr per unit (Combustion Turbine and HRSG)
Fuel: Natural gas
Control Device: Water injection with SCR

1. Restrictions:

- a. The permittee shall continue to meet the conditions of Operating Permit No. 0056, in addition to the revisions in this permit. (§2102.04.b.5)
- b. Only pipeline natural gas shall be combusted in the combustion turbines and HRSGs. (Installation Permit #0056-I001c, condition V.A.1.a; §2102.04.b.6, 25 Pa. Code §129.99)
- c. Heat input to each HRSG duct burner shall be limited to 240 MMBtu/hr. (Installation Permit #0056-I001c, condition V.A.1.b; §2102.04.b.6, 25 Pa. Code §129.99)
- d. Nitrogen oxides emissions shall not exceed 3.5 ppm_{vd} @ 15% O₂ during any three hour time period at or above 60% of full load. Each hour of the 3-hour time period shall be a clock hour. (Installation Permit #0056-I001c, condition V.A.1.c; §2102.04.b.6, 25 Pa. Code §129.99)
- e. Emissions of nitrogen oxides from each unit shall not exceed 42 ppmvd @ 15% oxygen. (25 Pa. Code §129.97(g)(2)(i)(A), 25 Pa. Code §129.99)
- f. Emissions of volatile organic compounds from each unit shall not exceed 5 ppmvd (as propane) @ 15% oxygen. (25 Pa. Code §129.97(g)(2)(i)(C))
- g. Emissions due to operation of each combined cycle turbine 2A, 2B & 3 shall not exceed the following limitations: (Installation Permit #0056-I001c, condition V.A.1.i; §2102.04.b.6; 25 Pa. Code §129.97(g)(2)(i)(A), 25 Pa. Code §129.99)

TABLE V-B-1: Units 2A, 2B and 3 Emission Limitations (Each Unit)

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year) ¹
Nitrogen Oxides	11.8 ²	51.7
Volatile Organic Compounds	3.0 ³ /6.0 ⁴	12

(1) A year is defined as any 12 consecutive months.

(2) Rolling 3-hour average

(3) Emissions at 90-100% full load

(4) Emissions at less than 90% full load

- h. Compliance with the nitrogen oxides emission limitations of V.B.1.e above shall be determined through following the NO_x Emissions Averaging Plan requirements in Condition IV.22 above. (25 Pa. Code §129.98; 25 Pa. Code §129.99; 25 Pa. Code §129.100)
- i. If the NO_x Averaging Plan described in Condition IV.22 above is terminated by ownership transfer or permit application to terminate the plan, the 25 Pa. Code §129 applicable NO_x emission limitations of V.B.1.d, V.B.1.e and V.B.1.g above shall be demonstrated for each emissions unit individually. (25 Pa. Code §129.99; 25 Pa. Code §129.100)

2. Testing Requirements:

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, 25 Pa. Code §129.100)

3. Monitoring Requirements:

- a. The permittee shall install, operate and maintain continuous emission monitors for nitrogen oxides, oxygen and carbon monoxide on each unit. (Installation Permit #0056-I001c, condition V.A.3.a; §2108.03.a., b., and c., 25 Pa. Code §129.100)
- b. Continuous emission monitoring systems for exhaust gas flow (or the fuel flow monitors specified by V.B.3.c below), nitrogen oxides, carbon monoxide (CO) and oxygen (O₂) shall be approved by the Department and installed, operated and maintained in accordance with the requirements of 25 Pa Code Chapter 139 and Article XXI, §2108.03. (Installation Permit #0056-I001c, condition V.A.3.b, 25 Pa. Code §129.100)
 - 1) No continuous emission monitoring system shall be considered to meet the requirements of this permit unless such system has been approved by the Department in writing. At least 45 days prior to installing any such system, or at such other times as is specified in an applicable order or permit condition, the person responsible for the affected source shall make written application to the Department for the approval of such system, which application shall include a thorough description of the system, the location where such system will be installed, a program for periodic calibration, zero and span drift checks and other quality assurance procedures and all other information needed by the Department to evaluate such system. The Department shall make its evaluation in accordance with all relevant guidelines, including the performance specifications and other requirements of Appendix P of 40 CFR Part 51 and Appendix B of 40 CFR Part 60, including all modifications to such appendices as may hereafter be made by the EPA. (Installation Permit #0056-I001c, condition V.A.3.b.2); §2108.03.e.)
 - 2) Failure to install and operate any continuous emissions monitoring system required by this permit or by an order, within the time specified, the failure to retain any data or submit any report so required, or the knowing retention or reporting of false data shall be a violation of this permit giving rise to the remedies provided by Article §2109.02. (Installation Permit #0056-I001c, condition V.A.3.b.3); §2108.03.f.)
- c. Continuous fuel flow monitors shall be installed and maintained in accordance with 40 CFR Part 75 Appendix D Chapter 2.1. (Installation Permit #0056-I001c, condition V.A.3.c, 25 Pa. Code §129.100)

- d. The following parameters shall be monitored for each SCR: (Installation Permit #0056-I001c, condition V.A.3.e; §2103.12.j & k, 25 Pa. Code §129.100)
 - 1) Catalytic bed inlet gas temperature (at least once every 15 minutes);
 - 2) Ammonia solution injection rate. (at least once every 15 minutes); and
 - 3) Ammonia solution concentration.

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data for units 2A, 2B & 3: (Installation Permit #0056-I001c, conditions V.A.4 b, c, d, e, f & g, §2103.12.a.2.B, §2103.12.j.2, 25 Pa. Code §129.100)
 - 1) Hourly fuel consumption and hours of operation (monthly total fuel, 12-month rolling totals);
 - 2) Emissions for the following pollutants: nitrogen oxides (monthly total emissions, 12-month rolling totals);
 - 3) The date, time, cause and the action taken to correct any malfunction (upon occurrence, monthly) ;
 - 4) Manufacturer's specifications for all CEMs that are required by this permit (maintained on site);
 - 5) Manufacturer's specifications for the combustion turbines, duct burners and air pollution control equipment (maintained on site);
 - 6) Records of operation (including parameters required to be monitored in Condition V.B.3.d above), maintenance, inspection, calibration and/or replacement of combustion and control equipment; and
 - 7) Stack test protocols and reports.
- b. The permittee shall keep and maintain records sufficient to demonstrate compliance with the annual limits for the 3-hour NO_x emission limitation in Conditions V.B.1.d and V.B.1.g above. (Installation Permit #0056-I001c, condition V.A.4.h, §2103.12.j.2, 25 Pa. Code §129.100)
- c. The permittee shall keep and maintain all records required by 40 CFR Parts 72 through 78. (Installation Permit #0056-I001c, condition V.A.4.i, 25 Pa. Code §129.100)
- d. 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 and/or electronic data for continuous monitoring instrumentation, and copies of all reports required by this permit. (Installation Permit #0056-I001c, condition V.A.4.b & V.A.4.j; §2103.12.j.2, 25 Pa. Code §129.100)
- e. 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.h.1, 25 Pa. Code §129.100)
- f. 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, 25 Pa. Code §129.100)

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department in 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, Installation Permit #0056-I001c, condition V.A.5.a, 25 Pa. Code §129.100)
 - 1) Monthly data required to be recorded by condition V.B.4.a above;
 - 2) Rolling 12-month total emissions for nitrogen oxides, carbon monoxide, and sulfur oxides; and
 - 3) Non-compliance information required to be recorded by condition V.B.4.e above.
- b. The permittee shall report exceedances to the Department in accordance with 40 CFR Part 77 Excess Emissions reporting requirements. (Installation Permit #0056-I001c, condition V.A.5.b, 25 Pa. Code §129.100)
- c. The permittee shall report emissions to the Department in accordance with 40 CFR Part 75 Continuous Emission Monitoring reporting requirements. (Installation Permit #0056-I001c, condition V.A.5.b, 25 Pa. Code §129.100)
- d. Condition V.B.5.c above can be met by submitting quarterly reports to the U.S. EPA Clean Air Markets Division, as per 40 CFR Part 75. (40 CFR Part 75, 25 Pa. Code §129.100)
- e. 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 Units 2A, 2B, and 3 and the associated control equipment and monitoring instrumentation in accordance with the manufacturer's specifications and good air pollution control practice. (Installation Permit #0056-I001c, condition V.A.3.f, 25 Pa. Code §129.99)
- b. The permittee shall at all times properly operate and maintain all process and emission control equipment at the facility according to good engineering practice. (25 Pa. Code §129.99)

VI. ALTERNATIVE OPERATING SCENARIOS

No alternative operating scenarios exist for this operation.

VII. EMISSIONS LIMITATIONS SUMMARY

The following tables summarize the estimated annual maximum potential emissions (which may not include fugitive) from the Brunot Island Units 1A, 2A, 2B and 3. These annual (consecutive 12 month) potential emission estimates assume that all sources operate continuously according to their permitted operating limitations.

TABLE VII-1: Emission Limitations Summary With Averaging Plan

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Nitrogen Oxides (NO _x)	330.1
Volatile Organic Compounds (VOC)	42.5

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

TABLE VII-1a: Emission Limitations Summary Without Averaging Plan

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Nitrogen Oxides (NO _x)	201
Volatile Organic Compounds (VOC)	38.0

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