## Table of Contents for GenOn Cheswick Generating Station SIP Package

**RACT 2 Case-by-Case Evaluation**

**Installation Permit No. 0054-I005**

<table>
<thead>
<tr>
<th>Description</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RACT SIP Completeness Checklist</td>
<td>2-3</td>
</tr>
<tr>
<td>SIP Permit (redacted)</td>
<td>4-22</td>
</tr>
<tr>
<td>SIP Technical Support Document (review memo)</td>
<td>23-27</td>
</tr>
<tr>
<td>SIP Comment Response Document</td>
<td>28-29</td>
</tr>
<tr>
<td>Draft Installation Permit</td>
<td>30-63</td>
</tr>
<tr>
<td>Draft Technical Support Document</td>
<td>64-68</td>
</tr>
<tr>
<td>RACT Evaluation (facility)</td>
<td>69-88</td>
</tr>
<tr>
<td>RACT I Order</td>
<td>89-96</td>
</tr>
<tr>
<td>Final Issued Installation Permit</td>
<td>97-130</td>
</tr>
</tbody>
</table>
Facility Name: Cheswick Generating Station

RACT Plan Approval/Permit Number: Installation Permit No. 0054-1005

Plan Approval/Permit Issuance Date: February 28, 2020

**TECHNICAL MATERIALS**

<table>
<thead>
<tr>
<th>Included</th>
<th>Not Included</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>✅</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Identification of all regulated (NOx and VOC) pollutants affected by the RACT plan (Review memo and RACT Permit)

<table>
<thead>
<tr>
<th>Included</th>
<th>Not Included</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>✅</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Quantification of the changes in plan allowable emissions from the affected sources as a result of RACT implementation. (Review Memo)

<table>
<thead>
<tr>
<th>Included</th>
<th>Not Included</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>✅</td>
</tr>
</tbody>
</table>

Rationale as to why applicable CTG or ACT regulation is not RACT for the facility. (Review Memo)

<table>
<thead>
<tr>
<th>Included</th>
<th>Not Included</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>✅</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Included</th>
<th>Not Included</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>✅</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Included</th>
<th>Not Included</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>✅</td>
</tr>
</tbody>
</table>

Include evidence, where necessary that emission limitations are based on continuous emission reduction technology. (Review Memo)

<table>
<thead>
<tr>
<th>Included</th>
<th>Not Included</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>✅</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Included</th>
<th>Not Included</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>✅</td>
</tr>
</tbody>
</table>

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)
State that independent technical and economic justification for RACT determination by the Department was performed. As long as you reviewed the companies proposal you may agree with it but that must be stated. (Review memo)

Confidential Business Information excluded, highlighted or marked. Please also redact all checks from the application. (Review Memo, RACT Permit, RACT Plan by the company)

Adequate compliance demonstration, monitoring, recordkeeping, work practice standards, and reporting requirements. (Review memo and RACT Permit)

**ADMINISTRATIVE DOCUMENTS**

<table>
<thead>
<tr>
<th>Attached</th>
<th>Not Attached</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>✗</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>✗</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>✗</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>✗</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>✗</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>✗</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>✗</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
AIR QUALITY PROGRAM
301 39th Street, Bldg. #7
Pittsburgh, PA 15201-1811

Minor Source/Minor Modification
INSTALLATION PERMIT

Issued To: GenOn Cheswick Generating Station
Pittsburgh & Porter Streets
Springdale, PA 15144

ACHD Permit#: 0054-1005
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

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)**

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)**


22. **NOX 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 NOX 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 NOX 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 NOX 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 NOX air contamination source specified in this subsection, which is located at a major NOX 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 NOX 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 NOX /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 NOX /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 NOX /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 NOX /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 NOX @ 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 NOX @ 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:

\[ E_{HI\text{weighted}} = \frac{\sum n_i = 1 E_i Hi_i}{\sum n_i = 1 H_i} \quad \text{Equation 2} \]

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.
- \( H_i \) = 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).

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 BRUNET ISLAND STATION ARE BOTH UNDER COMMON OWNERSHIP. THE EMISSIONS UNITS INCLUDED IN THE SYSTEM-WIDE NOX EMISSIONS AVERAGING PLAN ARE THE MAIN BOILER NO. 1 AND THE AUXILIARY BOILER AT CHESWICK AND COMBUSTION TURBINES 1A, 2A, 2B AND 3 AT BRUNET ISLAND.]

2) The owner or operator of each facility that elects to comply with part §129.98(a) shall submit a written NOX 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:
   b) October 24, 2016, or 6 months after the date that the source meets the definition of a major NOX emitting facility, whichever is later, for a source subject to §129.96(b).

3) Each NOX air contamination source included in the application for an operating permit modification or a plan approval, if otherwise required, for averaging NOX 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 NOX 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 NOX 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 NOX emissions emitted by the air contamination 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 25 Pa. Code §129.97 on a source-specific basis.

5) The owner or operator shall calculate the alternative facility-wide or system-wide NOX 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 NOX emissions averaging plan:

\[
\sum n_i = 1(E_{i\text{actual}}) \leq \sum n_i = 1(E_{i\text{allowable}})
\]

Where:

\( n \) = The number of air contamination sources included in the NOX emissions averaging plan

\( E_{i\text{actual}} \) = The actual NOX mass emissions, including emissions during startups, 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 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\textsubscript{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\textsubscript{X} emissions averaging using a 30-day rolling average only for NO\textsubscript{X}-emitting sources or NO\textsubscript{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\textsubscript{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\textsubscript{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\textsubscript{X} RACT emission limitations may not substitute those emission reductions for the emission reductions required by the facility-wide or system-wide NO\textsubscript{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\textsubscript{X} RACT emission limitation in 25 Pa. Code §129.97 that is not included in a facility-wide or system-wide NO\textsubscript{X} emissions averaging plan submitted under part §129.98(b), shall operate the source in compliance with the applicable NO\textsubscript{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\textsubscript{X} emissions averaging plan submitted under part §129.98(b) shall be liable for a violation of an applicable NO\textsubscript{X} RACT emission limitation at each source included in the NO\textsubscript{X} emissions averaging plan.

11) Calculation of the Allowable NO\textsubscript{X} Emissions (E\text{allowable})

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

\[
\text{Daily E}_{\text{allowableM}} = \left( \sum n \right) \left( Z(C_1) + X(C_2) + G(C_3) \right) \quad \{\text{Equation 3}\}
\]

Where:
- \(\text{Daily E}_{\text{allowableM}}\) = The daily allowable NO\textsubscript{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\textsubscript{X}/mmBTU,
- \(C_1\) = The hourly heat input for coal-firing operations when SCR inlet T >= 600°F, expressed in units of mmBTU,
- \(X = 0.35\) lb NO\textsubscript{X}/mmBTU,
- \(C_2\) = The hourly heat input for coal-firing operations when SCR inlet T < 600°F, expressed in units of mmBTU,
- \(G = 0.10\) lb NO\textsubscript{X}/mmBTU,
- \(C_3\) = The hourly heat input for gas-firing operations, expressed in units of mmBTU,

The hourly heat inputs \((C_1, C_2,\text{ and } C_3)\) 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 Ei allowableA (in lbs):

\[
Daily \ E_i^{allowableA} = [(Y)(FO)] \ \{\text{Equation 4}\}
\]

Where:
Daily Ei allowableA = The daily allowable NOX 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 NOx/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 Ei allowableB1A (in lbs):

\[
Daily \ E_i^{allowableB1A} = [(W)(FO)] \ \{\text{Equation 5}\}
\]

Where:
Daily Ei allowableB1A = The daily allowable NOX 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 NOX/mmBTU (equivalent to 96 ppmvd NOX @ 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 Ei allowableM (in lbs) for each turbine:

\[
Daily \ E_i^{allowableM[2A,2B,3]} = [\sum_{n=1}^{N}(U)(CG_1) + (V)(G_2)] \ \{\text{Equation 6}\}
\]

Where:
Daily Ei allowableM[2A,2B,3] = The daily allowable NOX 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 NOx/mmBTU (Equivalent to 42 ppmvd NOx @ 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 NOX/mmBTU (Equivalent to 3.5 ppmvd NOx @ 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 $E_{i\text{allowable}}$:

$$
Daily \ E_i^{\text{allowable}} = Daily \ E_i^{\text{allowableM}} + Daily \ E_i^{\text{allowableA}} + Daily \ E_i^{\text{allowableB1A}} + Daily \ E_i^{\text{allowableB12}} + Daily \ E_i^{\text{allowableB12A}} + Daily \ E_i^{\text{allowableB13}} \ \{\text{Equation 7}\}
$$

f) The 30-day rolling system-wide allowable NOX mass emissions ($E_{i\text{allowable}}$) are calculated by summing the allowable NOX 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 NOX 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 NOX RACT emission limitation at each of the units included in the system-wide NOX 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 NOX 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 NOx 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 NOx 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 NOx 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 NOx emissions limit shall be included in the quarterly RACT system-wide NOx emissions averaging report.

6) The quarterly RACT system-wide NOx 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 NOX 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. Main Boiler No. 1, Stack No. 001a

Process Description: Tangentially-Fired Boiler
Facility ID: Main Boiler No.1
Max. Design Rate: 6,000 MMBtu/hr (maximum hourly rating); 5,500 MMBtu/hr (maximum continuous rating) coal and synfuel; 1,028 MMBtu/hr natural gas
Fuel(s): Coal (primary) or synfuel; Natural gas (auxiliary)
Control Device: Low NOx burners, electrostatic precipitator (ESP) with flue gas conditioning, selective catalytic reduction (SCR) & flue gas desulfurization (FGD)
CEM: NOX, SO2, CO2 and opacity (COM)

1. Restrictions:
   a. The permittee shall continue to meet the conditions of Operating Permit No. 0054, in addition to the revisions in this permit. §2102.04.b.5
   b. Nitrogen oxide (NOx) emissions from the Main Boiler shall not exceed the following: (25 Pa. Code §129.97(g)(vi)(B), §129.97(g)(viii), 25 Pa. Code §129.99)
      
      7) 0.12 lb/MMBtu, when the inlet temperature to the SCR is equal to or greater than 600 degrees Fahrenheit;
      8) 0.35 lb/MMBtu, when the inlet temperature to the SCR is less than 600 degrees Fahrenheit; and
      9) 5,621 tons/year.
   c. Volatile organic compound (VOC) emissions from the Main Boiler shall not exceed 0.0034 lb/MMBtu. (25 Pa. Code §129.99)
   d. Emissions from the Main Boiler Stack-001a shall not exceed the following: [25 Pa. Code §129.97(g)(vi)(B), §129.97(g)(viii), 25 Pa. Code §129.99]

<table>
<thead>
<tr>
<th>POLLUTANT</th>
<th>HOURLY EMISSION LIMIT</th>
<th>ANNUAL EMISSION LIMIT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(lb/hr)</td>
<td>(tons/year)¹</td>
</tr>
<tr>
<td>Nitrogen Oxides</td>
<td>720²</td>
<td>5,621</td>
</tr>
<tr>
<td></td>
<td>1400³</td>
<td></td>
</tr>
<tr>
<td>Volatile Organic Compounds</td>
<td>20.4</td>
<td>82.0</td>
</tr>
</tbody>
</table>

   1) A year is defined as any consecutive 12-month period.
   2) SCR inlet temperature ≥600°F (30-day rolling average)
   3) SCR inlet temperature <600°F (30-day rolling average)
f. If the NOX Averaging Plan described in Condition IV.22 above is terminated by ownership transfer or permit application to terminate the plan, the NOX emission limitations of V.A.1.b and V.A.1.d above shall be demonstrated for Cheswick Main Boiler No. 1 independent of the other units in the averaging plan (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.125 Pa. Code §129.100)

3. Monitoring Requirements:


1) catalytic bed inlet gas temperature,
2) ammonia solution injection rate, and
3) ammonia solution concentration (receipt of certification from vendor).

b. The permittee shall operate and maintain the SCR equipment and monitoring instrumentation in accordance with the manufacturer’s specifications and good air pollution control practice. (§2105.03, §2102.04.b.6, IP No. 0054-I002, Condition V.A.3.b, issued June 13, 2001, 25 Pa. Code §129.100)

c. The permittee shall certify, operate, and maintain continuous emission monitors in accordance with 40 CFR Part 75 or approved alternative for SO2, volumetric gas flowrate, NOx, and CO2 emissions from the new main boiler stack. (40 CFR 75, Article XXI §2103.22.j, §2103.50, IP No. 0054-I004b Condition V.A.3.b, 25 Pa. Code §129.100)

1) Continuous monitoring systems shall comply with the Installation and Performance Specifications of appendix A of Part 75. (40 CFR 75.10(b))

2) The permittee shall determine and record the heat input for every hour or part of an hour of any fuel that is combusted per Appendix F of Part 75. (40 CFR 75.10(b))

3) Continuous monitoring systems shall meet the minimum data availability requirements in 40 CFR part 75. (40 CFR 75)

4) The NOx and SO2 CEMs shall record emissions in terms of lb/MMBtu and lb/hr for each pollutant. (§2108.03.b.4, §2102.04.b.6)

4. Record Keeping Requirements:

a. The permittee shall maintain all appropriate records to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 217. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 217 are met. The permittee 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 §2105.06 and RACT Order No. 217. Such information shall include, but not be limited to, the following minimum information which shall be submitted to the Department as a written report at three month intervals: (§2108.03.d, §2105.06, RACT Order No. 217, Condition 1.4, 25 Pa. Code §129.100)

1) All recording and reporting required by Section 2108.03 of Article XXI, and entitled “Continuous Emission Monitoring.”

2) An identification of each instance during the reporting period during which emissions exceeded the applicable emission limitations rates in condition V.A.1.b above and an identification of the reasons, if known, for such exceedance. The averaging period used for making such identification shall correspond to the averaging period specified in condition V.A.1.b above.

3) An identification of each period during which the continuous emission monitoring system was inoperative, except for zero and span drift checks, the reasons therefore, and the nature of repairs or adjustments performed or to be performed.

4) An identification of calibrations, zero and span drift checks, and other quality assurance procedures.

b. The permittee shall keep and maintain the following data for Main Boiler No. 1: (§2102.04.b.6, §2103.12.j, IP No. 0054-I004b Condition V.A.4.a, 25 Pa. Code §129.100)

1) Type and amount of fuel used (tons of coal/day, MMscf of natural gas/day);
2) Amount of synfuel used each month (tons);
3) Records of the type of synfuel binder used each month and the material safety data sheets for each binder used;
4) Steam load (lbs/hr, lbs/day; average daily steam load for each month);
5) Total operating hours, (hours/day, monthly and 12-month);
6) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment;
7) Stack test protocols and reports;
8) Data specified to be monitored in Condition V.A.3 above; and

c. The permittee shall maintain records of all air pollution control system performance evaluations and all records of calibration checks, adjustments, and maintenance performed on all equipment which is subject to this permit. (IP No.0054-I002, Condition V.A.4.b, issued June 13, 2001, §2103.05, 25 Pa. Code §129.100)

d. The permittee shall maintain a copy of the manufacturer’s specifications for the SCR air pollution control equipment on-site. (IP No.0054-I002, Condition V.A.4.c, issued June 13, 2001, 25 Pa. Code §129.100)

e. The permittee shall keep a record of the date, time, and cause of the malfunction of all air pollution control systems, and the action taken to correct the malfunction. (IP No.0054-I002, Condition V.A.4.d, issued June 13, 2001, §2108.01.b & §2108.01.c, 25 Pa. Code §129.100)

f. The permittee shall record at a minimum the following SCR control system information: (IP No. 0054-I002, Condition V.A.4.e, issued June 13, 2001, 25 Pa. Code §129.100)
1) Catalytic bed inlet temperature, ammonia solution injection rate, and ammonia solution concentration (once each shift).
2) All instances or episodes when the catalyst was bypassed due to boiler upset conditions and low boiler load conditions when the boiler exhaust temperature is outside of the operating range of the SCR catalyst (each occurrence).
3) All instances when the catalyst is bypassed (each occurrence).

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, IP No.0054-I002, Condition V.A.4.a, issued June 13, 2001, §2108.01.b & §2108.01.c, 25 Pa. Code §129.100)

The permittee shall prepare and maintain on-site a QA/QC Plan as described in 40 CFR Part 75 Appendix B. (40 CFR §75.50(a)(4)) The permittee shall also maintain a file of all measurements, data, reports, and other required information for at least five years. (40 CFR §75.54, 25 Pa. Code §129.100)

All records of all required monitoring data and support information shall be retained by the facility for at least five (5) years. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. 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)

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 non-compliance information required to be recorded by V.A.4.g above 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, 25 Pa. Code §129.100)

b. The permittee shall submit the results of the continuous nitrogen oxides monitoring systems on a regular schedule and in a format acceptable to the Department and in compliance with the USEPA Clean Air Markets Division Part 75 requirements. (§2108.03.b.3, 25 Pa. Code §129.100)

c. Within 30 days of the end of each calendar quarter, the following shall be reported to the Department: (Permit No. 1065009-003-00100, issued December 8, 1981; IP No. 0054-I002, Condition V.A.5.a, issued June 13, 2001; §2103.12.k.1, IP No. 0054-I004b Condition V.A.5.c, 25 Pa. Code §129.100)

1) Amount of coal fired each month (tons);
2) Daily average and rolling 30-day average NOx emissions and cumulative 12-month total NOx emissions (lb/MMBtu and lb/hr; tons/year); and
3) Cumulative 12-month synfuel usage for each month during the compliance period.

d. The permittee shall provide the Department written notice 21 days prior to dates of periodic relative accuracy testing audits per 40 CFR 75.61(a)(5). (40 CFR §75.21(d), Article XXI §2103.22.j, §2103.50, 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.  

6. Work Practice Standard:

a. The permittee shall not, at any time, operate Main Boiler No. 1 unless the subject boiler, including the low NOx concentric firing system II, is properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 217, Conditions 1.1 and 1.6, issued March 8, 1996; §2105.06; §2105.03, 25 Pa. Code §129.99)

b. All air pollution control equipment required by this Article or any permit or order under this Article, and all equivalent compliance techniques which have been approved by the Department pursuant to this Article, shall be properly installed, calibrated maintained, and operated consistent with good air pollution control practice. (§2105.03, IP No. 0054-I004b Condition V.A.6.a, 25 Pa. Code §129.99)

c. The permittee shall take corrective action if an out of control period occurs to a monitoring system (e.g., continuous emission monitor). (40 CFR §75.24, Article XXI §2103.22.j, §2103.50, IP No. 0054-I004b Condition V.A.6.b, 25 Pa. Code §129.100)

d. The failure to install and operate any continuous emissions monitoring system required by §2108.03 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 (§2109.02. §2108.03.f, IP No. 0054-I004b Condition V.A.6.c, 25 Pa. Code §129.100)
B. Auxiliary Boiler, Stack No. 2

**Process Description:** Oil-fired external combustion boiler  
**Facility ID:** Auxiliary Boiler  
**Max. Design Rate:** 160 MMBtu/hr  
**Raw Materials:** No. 2 Fuel Oil, 0.05% (wt.) sulfur content  
**Control Device:** None

1. **Restrictions:**
   a. The permittee shall continue to meet the conditions of Operating Permit No. 0054, in addition to the revisions in this permit. ([§2102.04.b.5](#))
   b. The permittee shall limit the heat input rate to the Auxiliary Boiler to less than 140,160 MMBtu per twelve (12) consecutive month period (10 percent annual capacity factor). ([§2103.12.a.2.B, §2105.06.b, §63.7575, 25 Pa. Code §129.99](#))
   d. All fuel oil purchased by the permittee beginning July 1, 2016 for the Auxiliary Boiler shall meet ASTM specifications for No.2 fuel oil and have a maximum sulfur content at or less than 0.05% by weight at all times. Commercial fuel oil that was stored in this Commonwealth by the ultimate consumer prior to July 1, 2016, which met the applicable maximum allowable sulfur content at the time it was stored, may be used by the ultimate consumer in this Commonwealth on and after July 1, 2016. ([§2103.12.h.1, Permit No. 106509-003-00600, issued May 2, 1995; PA Code 25 123.22(d)(2)(ii), PA Code 25 123.22(d)(2)(iii), 25 Pa. Code §129.100](#))
   e. Emissions from The Auxiliary Boiler shall not exceed the following at any time: ([25 Pa. Code §129.97(g)(1)(ii), 25 Pa. Code §129.99](#))

<table>
<thead>
<tr>
<th>POLLUTANT</th>
<th>HOURLY EMISSION LIMIT (lb/hr)</th>
<th>ANNUAL EMISSION LIMIT (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen Oxides</td>
<td>19.2</td>
<td>8.4</td>
</tr>
<tr>
<td>Volatile Organic Compounds</td>
<td>0.3</td>
<td>0.13</td>
</tr>
</tbody>
</table>

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

f. Compliance with the nitrogen oxides emission limitations of V.B.1.c above shall be determined through following the NO\textsubscript{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](#))

g. If the NO\textsubscript{X} Averaging Plan described in Condition IV.22 above is terminated by ownership transfer or permit application to terminate the plan, the NO\textsubscript{X} emission limitations of V.B.1.c and V.B.1.e above shall be demonstrated for Cheswick Auxiliary Boiler independent of the other units in the averaging plan. ([25 Pa. Code §129.99; 25 Pa. Code §129.100](#))
2. **Testing Requirements:**

   a. The permittee shall perform nitrogen oxides emissions testing on the Auxiliary Boiler at least once every five years in order to demonstrate compliance with the emission limitations of this permit. Such testing shall be conducted in accordance with U.S. EPA test method 7E or an alternative method approved by the Department and Article XXI §2108.02. (§2103.12.h.1; §2108.02.b, §2108.02.e., 25 Pa. Code §129.100)

   b. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1, 25 Pa. Code §129.100]

3. **Monitoring Requirements:**

   The permittee shall operate and maintain a fuel flow meter to monitor the amount of fuel oil combusted in the Auxiliary Boiler. (§2103.12.i, 25 Pa. Code §129.100)

4. **Record Keeping Requirements:**

   a. The permittee shall maintain all appropriate records to demonstrate compliance with the requirements of both Section 2105.06 Article XXI, and conditions V.B.1.b and V.B.6.b below. Such records shall provide sufficient data to clearly demonstrate that all requirements of Section 2105.06 of Article XXI, and conditions V.B.1.b and V.B.6.b below, are being met. (§2105.06.g, 25 Pa. Code §129.100)

   b. The permittee shall keep and maintain the following data for the Auxiliary Boiler: (§2103.12.h.1, §63.7525(k), 25 Pa. Code §129.100)

   1) Amount of fuel oil used (daily and 12-month, gallons);
   2) Records of fuel oil supplier’s certification of sulfur content, and fuel oil heating value (each shipment received);
   3) Total operating hours, (hours/day, monthly and 12-month);
   4) Total heat input rate (12-month, MMBtu)
   5) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment.
   6) Stack test protocols and reports.
   7) Records of the annual adjustment required by V.B.6.b below.

   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 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 on a semi-annual basis. The reports shall contain all required information for the time period of the report: (§2103.12.k.1, 25 Pa. Code §129.100)

b. Monthly and 12-month data required to be recorded by condition V.B.4.b above (, 25 Pa. Code §129.100);
   1) A statement from the permittee that the record of fuel supplier certifications required by condition V.B.4.b above represents all the fuel oil received during the reporting period; and
   2) Non-compliance information required to be recorded by V.B.4.c above.

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 not, at any time, operate the Auxiliary Boiler unless the subject boiler is properly operated and maintained according to good engineering and air pollution control practices. (§2105.03, 25 Pa. Code §129.99)

b. The permittee shall conduct a tune-up of the Auxiliary Boiler at least once every 5 years from the date of the last tune-up. (§63.7500(a)(1): Subpart 5D Table 3, Item #1, 25 Pa. Code §129.99)
I. Executive Summary

The Cheswick Generating Station (Cheswick) is defined as a major source of NOx 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 NOx and VOC

The Permittee has elected to enter into a system-wide NOx emissions averaging plan with the Brunot Island Generating Station, as per 25 PA Code §129.98. The following Sources are included in a NOx 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.

There are no technically feasible control options for VOC at the Cheswick Main Boiler No. 1.

II. Regulatory Basis

ACHD requested all major sources of NOx (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 NOx and/or VOC RACT for incorporation into Allegheny County’s portion of the PA SIP. The non-exempt sources at Cheswick (Main Boiler No. 1 and the Auxiliary Boiler) both meet their presumptive RACT requirements. The facility has requested that these units along with Combustion Turbines, 1A, 2A, 2B and 3 from the Brunot Island Generating Station be added into a system-wide NOx emissions averaging plan, as per 25 Pa Code 129.98. This document is the result of ACHD’s determination of RACT for these two emission sources at Cheswick based on the materials submitted by the subject source and other relevant information.
### III. Facility Description, Existing RACT I and Sources of NOx

The Cheswick Generating Station is an electric generating facility located on Pittsburgh and Porter Streets in Springdale, PA. The plant is composed of one main boiler exhausting to one stack, which fires coal (including synfuel) as the primary fuel and natural gas as an auxiliary fuel for startup, shutdown, and during upset conditions. Pollution control equipment for the main boiler includes low NOx burners, electrostatic precipitation with flue gas conditioning, selective catalytic reduction, and flue gas desulfurization (FGD). The plant also has a No. 2 oil-fired auxiliary boiler which exhausts to a separate stack. Cheswick is a major source of NOx and VOC emissions.

On March 8th, 1996 the facility entered into a consent decree with the Department to meet RACT I obligations under RACT Order No. 217. RACT Order 217 was approved as RACT by EPA in 2001 (66 FR 52867). The RACT I requirements are to operate the Main Boiler No. 1 with properly maintained and operated low NOx concentric firing system II and a NOX CEMS. The NOx emissions were limited to 0.5548 lbNOx/MMBtu (24 hours), 0.45 lbNOX/MMBtu (annually), and 10,840 tons NOx/yr. All processes and controls are to be operated and maintained according to good engineering practice. Additional requirements are to maintain records of production and fuel usage demonstrating compliance.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Facility Sources Subject to Case-by-Case RACT II and Their Existing RACT I Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Permittee has elected to enter into a system-wide NOx emissions averaging plan with the Brunot Island Generating Station, as per 25 PA Code §129.98. The following Sources are included in a NOx Averaging Plan: <strong>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.</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Facility Sources Subject to the Presumptive RACT II per PA Code 129.97</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Source ID</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>S-001</td>
<td>Main Boiler No. 1: Tangentially-Fired Coal Boiler</td>
</tr>
<tr>
<td>S-002</td>
<td>Auxiliary Boiler: No. 2 fuel oil-fired</td>
</tr>
<tr>
<td>Diesel Compressor</td>
<td>Air Compressor</td>
</tr>
<tr>
<td>Diesel Compressor</td>
<td>Air Compressor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Facility Sources Exempt from RACT II per PA Code 129.96(c) (&lt; 1 TPY NOx)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Source ID</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>B001</td>
<td>Space Heaters (7 units)</td>
</tr>
</tbody>
</table>
IV. RACT Determination

The Main Boiler No. 1 and Auxiliary Boiler at Cheswick are able to meet the Presumptive Requirements per PA Code 129.97. Those requirements were included in the Cheswick Title V Permit renewal, issued on November 21, 2017. The potential NOx emissions in the Main Boiler No. 1 and the Auxiliary Boiler were reduced from 10,840 (RACT I limit) to 5,621 ton/year and 31.8 to 10.2 tons/year, respectively. The permittee submitted an official request to establish a NOx 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 NOX 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 NOx 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 NOX mass and compared as illustrated below.

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

Where,

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

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:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Daily Operating Hours</th>
<th>Rated Heat Input</th>
<th>Applicable Averaging Plan Limit</th>
<th>Actual Rate</th>
<th>Actual NOx Mass</th>
<th>Allowable NOx Mass</th>
<th>Monitoring and Recordkeeping Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheswick Boiler No. 1</td>
<td>24.0</td>
<td>5500</td>
<td>0.12</td>
<td>0.10</td>
<td>198.0</td>
<td>237.6</td>
<td>1, 3</td>
</tr>
<tr>
<td>Cheswick Auxiliary Boiler</td>
<td>4.0</td>
<td>160</td>
<td>0.12</td>
<td>0.13</td>
<td>1.2</td>
<td>1.2</td>
<td>4</td>
</tr>
<tr>
<td>Brunot Island CT-1A</td>
<td>4.0</td>
<td>300</td>
<td>0.37</td>
<td>0.50</td>
<td>10.5</td>
<td>0.7</td>
<td>4</td>
</tr>
<tr>
<td>Brunot Island CT-2A</td>
<td>8.0</td>
<td>918</td>
<td>0.013</td>
<td>0.011</td>
<td>1.2</td>
<td>1.2</td>
<td>2, 3</td>
</tr>
<tr>
<td>Brunot Island CT-2B</td>
<td>8.0</td>
<td>918</td>
<td>0.013</td>
<td>0.011</td>
<td>1.2</td>
<td>1.2</td>
<td>2, 3</td>
</tr>
<tr>
<td>Brunot Island CT-3</td>
<td>8.0</td>
<td>918</td>
<td>0.013</td>
<td>0.011</td>
<td>1.2</td>
<td>1.2</td>
<td>2, 3</td>
</tr>
</tbody>
</table>

**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 NOx on site analyzer per 40 CFR 75 procedures plus emission rate from recent compliance stack test
The Main Boiler No. 1 does not have a Presumptive Requirement for VOC as per PA Code 129.97. A case-by-case RACT evaluation was performed for the Main Boiler No. 1. Catalytic oxidation has been used to control VOC emissions from natural gas-fired combustion turbines since oxidation catalysts are suitable for gas streams with negligible particulate loading. However, catalytic oxidation is not a demonstrated technology for PC-fired boilers. Catalyst can be clogged when there is high particulate loading. Oxidation catalyst can be installed after an ESP but that control device lowers the exhaust gas below the catalyst optimum temperature. Therefore, this option was removed from further consideration and no other control options for VOC were found to be technically feasible.

The Department has determined that the VOC RACT, for the Main Boiler No. 1, is continued compliance with existing requirements. The existing permit effectively limits the VOC emissions to less than 0.0034 lb/MMBtu, annually. To put the selected RACT limits into a broader context, the Department reviewed the EPA’s RBLC (i.e., Code: 11.220 Utility and Large Industrial Size Boilers/Furnaces >250 MMBtu/hr Coal) over the last 10 years. The VOC limits are comparable with the VOC limits identified in the RBLC search.

V. RACT Emissions Summary

The conditions of Plan Approval Order and Agreement No. 217, issued March 8th, 1996, have been superseded by the case-by-case and presumptive RACT II conditions in this proposed permit. The RACT II conditions are at least as stringent as those from RACT I. Based on the findings in this RACT analysis, the Cheswick facility emissions can be summarized as follows:

Table 5  RACT II NOx Emissions Reduction Summary

<table>
<thead>
<tr>
<th>NOx Potential Emissions (tpy)</th>
<th>PTE Prior to RACT II</th>
<th>RACT Reduction</th>
<th>Revised PTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,883</td>
<td>5,241</td>
<td>5,637</td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 5, the RACT II conditions reduced 5,241 tons of potential NOx emissions from the Cheswick facility.

Table 6  RACT II VOC Emissions Reduction Summary

<table>
<thead>
<tr>
<th>VOC Potential Emissions (tpy)</th>
<th>PTE Prior to RACT II</th>
<th>RACT Reduction</th>
<th>Revised PTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>82.1</td>
<td>0</td>
<td>82.1</td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 6, the RACT II conditions reduced 0 tons of potential VOC emissions from the Cheswick facility.

VI. RACT II Permit Conditions

<table>
<thead>
<tr>
<th>Source ID</th>
<th>Description</th>
<th>Permit 0054-1005 Condition</th>
<th>Regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHESWICK MAIN BOILER NO. 1, CHESWICK AUXILIARY BOILER, BRUNOT ISLAND</td>
<td>Condition IV.22.a, Condition IV.22.b, Condition IV.22.c</td>
<td>25 PA Code §129.97, 25 PA Code §129.98, 25 PA Code §129.100</td>
<td></td>
</tr>
<tr>
<td>Source ID</td>
<td>Description</td>
<td>Permit 0054-1005 Condition</td>
<td>Regulations</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------</td>
<td>-----------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td></td>
<td>COMBUSTION TURBINES 2A, 2B AND 3, and BRUNOT ISLAND COMBUSTION TURBINE 1A</td>
<td>Condition V.A.1.b</td>
<td>25 PA Code §129.97(g)(vi)(B), §129.97(g)(viii), §129.99</td>
</tr>
<tr>
<td></td>
<td>Main Boiler No. 1</td>
<td>Condition V.A.1.c</td>
<td>25 PA Code §129.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.1.d</td>
<td>25 PA Code §129.97(g)(vi)(B), §129.97(g)(viii), §129.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.1.e</td>
<td>25 PA Code §129.99, §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.1.f</td>
<td>25 PA Code §129.99, §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.2</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.3.a</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.3.b</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.3.c</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.a</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.b</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.c</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.d</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.e</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.f</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.g</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.h</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.i</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.j</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.5.a</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.5.b</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.5.c</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.5.d</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.6.a</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.6.b</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.6.c</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.6.d</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td>Auxiliary Boiler</td>
<td>Condition V.B.1.b</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.1.c</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.1.d</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.1.e</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.1.f</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.1.g</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.2.a</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.2.b</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.3</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.4.a</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.4.b</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.4.c</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.4.d</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.5.a</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.5.b</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.6.a</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.6.b</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.6.c</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.6.d</td>
<td>25 PA Code §129.100</td>
</tr>
</tbody>
</table>
SUMMARY OF PUBLIC COMMENTS AND DEPARTMENT RESPONSES ON THE PROPOSED ISSUANCE OF CHESWICK GENERATING STATION INSTALLATION PERMIT NO. 0054-I005

[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 inquired how compliance with a 30-day rolling averaging plan is ensured given that Cheswick Auxiliary Boiler 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 Cheswick Auxiliary Boiler, 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\textsubscript{X} emissions, the previous two stack tests on Auxiliary Boiler resulted in NO\textsubscript{X} emission rates of 0.095 and 0.11 lb/MMBtu. Coupled with the Auxiliary Boiler already limited to a 10% capacity factor, there is not a strong justification for more frequent stack testing or more rigorous monitoring.

The Department has removed Condition V.B.2.b, regarding an option to waive testing requirements for operations at less than a 10% capacity factor. That condition is no longer valid given the presumptive RACT 2 compliance requirements under 25 Pa. Code §129.100(a)(4).

2. **COMMENT:** The commenter noted that the averaging plan termination clause incorrectly applies the applicable requirements if the NO\textsubscript{X} averaging plan is terminated.

**RESPONSE:** The Department partially disagrees and partially agrees with the comment. In the event of the termination of the averaging plan, Condition V.A.1.f. requires the Main Boiler to (continue to) comply with the presumptive RACT 2 NO\textsubscript{X} emission limits. Under 25 Pa. Code §129.100(a)(1) for air contamination source with a CEMS, monitoring and testing is performed using a 30-day rolling average. Therefore, no changes have been made to Condition V.A.1.f.
The commenter is correct that, as drafted, the averaging plan termination clause contained in Condition V.B.1.g cross-references Condition V.B.1.c and V.B.1.e, which contained 30-day rolling averages (in relation to the averaging plan). Under 25 Pa. Code §129.100(a)(4) for individual air contamination sources without a CEMS, the compliance testing procedure is one test in each 5-year calendar period. That is to say there is no 30-day rolling average for an individual unit without a CEMS outside of an averaging plan. The Department has removed references to the 30-day averaging period in Conditions V.B.1.c and V.B.1.e. The 30-day rolling average period for the purposes of the facility-wide NOX emissions averaging plan remains an applicable compliance method and is correctly referenced by Condition V.B.1.f

3. **COMMENT:** The commenter noted that 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 NOX 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 NOX averaging calculation. Please discuss how and ensure that the NOX 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:** 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 NOX mass emissions.

David D. Good, Air Quality Engineer

### List of Commenters

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cynthia H. Stahl, PhD.</td>
<td>U.S. Environmental Protection Agency Region III</td>
</tr>
<tr>
<td>Air Protection Division</td>
<td></td>
</tr>
</tbody>
</table>
Air Quality Program
301 39th Street, Bldg. #7
Pittsburgh, PA 15201-1811

Minor Source/Minor Modification
INSTALLATION PERMIT

Issued To: GenOn Cheswick Generating Station  ACHD Permit#: 0054-1005
Pittsburgh & Porter Streets
Springdale, PA 15144

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
# TABLE OF CONTENTS

I. CONTACT INFORMATION ........................................................................................................ 4  
II. FACILITY DESCRIPTION ..................................................................................................... 5  
III. GENERAL CONDITIONS .................................................................................................. 6  
IV. SITE LEVEL TERMS AND CONDITIONS ......................................................................... 11  
V. EMISSION UNIT LEVEL TERMS AND CONDITIONS ......................................................... 25  
   A. MAIN BOILER NO. 1, STACK NO. 001A ............................................................................ 25  
   B. AUXILIARY BOILER, STACK NO. 2 .................................................................................. 30  
VI. ALTERNATIVE OPERATING SCENARIOS ..................................................................... 33  
VII. EMISSIONS LIMITATIONS SUMMARY ....................................................................... 34

**AMENDMENTS:**

<table>
<thead>
<tr>
<th>DATE</th>
<th>SECTION(S)</th>
</tr>
</thead>
</table>

GenOn Cheswick – ip5  3  Proposed: January 8, 2020
I. CONTACT INFORMATION

Facility Location: Cheswick Generating Station
Pittsburgh & Porter Street
Springdale, PA 15144

Permittee/Owner: GenOn Power Midwest LP
Cheswick Generating Station
P.O. Box 65
Cheswick, PA 15024

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
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 Cheswick Generating Station is an electric generating facility located on Pittsburgh and Porter Streets in Springdale, PA. The plant is composed of one main boiler exhausting to one stack, which fires coal (including synfuel) as the primary fuel and natural gas as an auxiliary fuel for startup, shutdown, and during upset conditions. Pollution control equipment for the main boiler includes low NOx burners, electrostatic precipitation with flue gas conditioning, selective catalytic reduction, and flue gas desulfurization (FGD). The plant also has a No. 2 oil-fired auxiliary boiler which exhausts to a separate stack. The facility is a major source of sulfur dioxide (SO2), nitrogen oxides (NOx), particulate matter (PM), particulate matter < 10 microns in diameter (PM10), particulate matter < 2.5 microns in diameter (PM2.5), carbon monoxide emissions (CO), hazardous air pollutants (HAPs), and volatile organic compounds (VOCs), 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**

<table>
<thead>
<tr>
<th>I.D.</th>
<th>SOURCE DESCRIPTION</th>
<th>CONTROL DEVICE(S)</th>
<th>MAXIMUM CAPACITY</th>
<th>FUEL/RAW MATERIAL</th>
<th>STACK I.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-001</td>
<td>Main Boiler No.1, Tangentially Fired</td>
<td>Low NOx Burners; ESP with Flue Gas Conditioning; SCR</td>
<td>6,000 MMBtu/Hr Maximum; 5,500 MMBtu/Hr Rated</td>
<td>Bituminous and Sub-Bituminous Coal; Synfuel; Natural Gas (Auxiliary Fuel)</td>
<td>S-001</td>
</tr>
<tr>
<td>S-002</td>
<td>Auxiliary Boiler, No. 2 Fuel Oil Stoker Fired</td>
<td>None</td>
<td>160 MMBtu/Hr</td>
<td>No. 2 Fuel Oil</td>
<td>S-002</td>
</tr>
</tbody>
</table>
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.


   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 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)**


22. **NOX 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 NOX 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 NOx 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 NOX 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 NOX air contamination source specified in this subsection, which is located at a major NOX 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 NOX 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 NOX/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 NOX/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 NOX/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 NOX/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 NOX @ 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 NOX @ 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:

\[ E_{HI\text{weighted}} = \frac{\sum n_i E_i H_i}{\sum n_i H_i} \]  

{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.
- \( H_i \) = 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).

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

3) Each NOX air contamination source included in the application for an operating permit modification or a plan approval, if otherwise required, for averaging NOX emissions on either a facility-wide or system-wide basis using a 30-day rolling average submitted under part §129.99(b) must be an air contamination source subject to a NOX 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 NOX 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 NOX emissions emitted by the air contamination 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 25 Pa. Code §129.97 on a source-specific basis.

5) The owner or operator shall calculate the alternative facility-wide or system-wide NOX 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 NOX emissions averaging plan:

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

Where:
- n = The number of air contamination sources included in the NOX emissions averaging plan
- \( E_{i_{actual}} \) = The actual NOX 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 NOX 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 NOX 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 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.

7) The owner or operator of an air contamination source or facility included in the facility-wide or system-wide NOX 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 NOX 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 NOX RACT emission limitations may not substitute those emission reductions for the emission reductions required by the facility-wide or system-wide NOX 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 NOX RACT emission limitation in 25 Pa. Code §129.97 that is not included in a facility-wide or system-wide NOX emissions averaging plan submitted under part §129.98(b), shall operate the source in compliance with the applicable NOX 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 NOX emissions averaging plan submitted under part §129.98(b) shall be liable for a violation of an applicable NOX RACT emission limitation at each source included in the NOX emissions averaging plan.

11) Calculation of the Allowable NOX Emissions (Eiallowable)

a) For the GenOn Cheswick Main Boiler No 1, the following equation (Equation 3) will be used to calculate Daily EiallowableM (in lbs):

\[
\text{Daily EiallowableM} = \left[ \sum ni = 1(Z)(C_1) + (X)(C_2) + (G)(C_3) \right] \quad \{\text{Equation 3}\}
\]

Where:
Daily EiallowableM = The daily allowable NOX 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 NOX/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 NOX/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 NOX/mmBTU,
C3 = The hourly heat input for gas-firing 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 EiallowableA (in lbs.):

\[
\text{Daily Ei}_{\text{allowableA}} = [(Y)(FO)] \quad \text{\{Equation 4\}}
\]

Where:
Daily Ei_allowableA = The daily allowable NO\textsubscript{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\textsubscript{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 Ei_allowableBI1A (in lbs):

\[
\text{Daily Ei}_{\text{allowableBI1A}} = [(W)(FO)] \quad \text{\{Equation 5\}}
\]

Where:
Daily Ei_allowableBI1A = The daily allowable NO\textsubscript{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\textsubscript{X}/mmBTU (equivalent to 96 ppmvd NO\textsubscript{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 Ei_allowableM (in lbs) for each turbine:

\[
\text{Daily Ei}_{\text{allowableM}(2A,2B,3)} = \left[ \sum_{n=1}^{n} (U)(CG_1) + (V)(G_2) \right] \quad \text{\{Equation 6\}}
\]

Where:
Daily Ei_allowableM(2A,2B,3) = The daily allowable NO\textsubscript{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\textsubscript{X}/mmBTU (Equivalent to 42 ppmvd NO\textsubscript{X} @ 15% oxygen),
G_1 = The hourly heat input for operation when combustion turbine output is <60% load, expressed in units of mmBTU,
V = 0.013 lb NO\textsubscript{X}/mmBTU (Equivalent to 3.5 ppmvd NO\textsubscript{X} @ 15% oxygen),
G_2 = Hourly heat input for operation when combustion turbine output is > 60% load, expressed in units of mmBTU,
The hourly heat inputs (G_1 & G_2) 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 $E_{\text{allowable}}$:

$$Daily E_{\text{allowable}} = Daily E_{\text{allowableM}} + Daily E_{\text{allowableA}} + Daily E_{\text{allowableB1A}} + Daily E_{\text{allowableB12}} + Daily E_{\text{allowableB2A}} + Daily E_{\text{allowableB3}} \{\text{Equation 7}\}$$

f) The 30-day rolling system-wide allowable NOX mass emissions ($E_{\text{allowable}}$) are calculated by summing the allowable NOX 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 $E_{\text{allowable}}$) 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 $E_{\text{actual}}$ to $E_{\text{allowable}}$

a) Beginning on January 1, 2017, the permittee shall demonstrate compliance with the alternative system-wide NOX RACT emissions limitation using a 30-day rolling average by comparing $E_{\text{actual}}$ to $E_{\text{allowable}}$ for each system operating day.

b) For each 30-day rolling period in which $E_{\text{actual}}$ exceeds $E_{\text{allowable}}$, the permittee shall be liable for a violation of the applicable NOX RACT emission limitation at each of the units included in the system-wide NOX 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 NOX 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 NOX 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 NOX 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 NOX 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 NOX emissions limit shall be included in the quarterly RACT system-wide NOX emissions averaging report.

6) The quarterly RACT system-wide NOX 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 NOX 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. Main Boiler No. 1, Stack No. 001a

Process Description: Tangentially-Fired Boiler
Facility ID: Main Boiler No.1
Max. Design Rate: 6,000 MMBtu/hr (maximum hourly rating); 5,500 MMBtu/hr (maximum continuous rating) coal and synfuel; 1,028 MMBtu/hr natural gas
Fuel(s): Coal (primary) or synfuel; Natural gas (auxiliary)
Control Device: Low NOx burners, electrostatic precipitator (ESP) with flue gas conditioning, selective catalytic reduction (SCR) & flue gas desulfurization (FGD)
CEM: NOx, SO2, CO2 and opacity (COM)

1. Restrictions:

a. The permittee shall continue to meet the conditions of Operating Permit No. 0054, in addition to the revisions in this permit. [§2102.04.b.5]

b. Nitrogen oxide (NOx) emissions from the Main Boiler shall not exceed the following: (25 Pa. Code §129.97(g)(vi)(B), §129.97(g)(viii), 25 Pa. Code §129.99)

7) 0.12 lb/MMBtu, when the inlet temperature to the SCR is equal to or greater than 600 degrees Fahrenheit;
8) 0.35 lb/MMBtu, when the inlet temperature to the SCR is less than 600 degrees Fahrenheit; and
9) 5,621 tons/year.

c. Volatile organic compound (VOC) emissions from the Main Boiler shall not exceed 0.0034 lb/MMBtu. (25 Pa. Code §129.99)

d. Emissions from the Main Boiler Stack-001a shall not exceed the following: [25 Pa. Code §129.97(g)(vi)(B), §129.97(g)(viii), 25 Pa. Code §129.99]

1) A year is defined as any consecutive 12-month period.
2) SCR inlet temperature ≥600°F (30-day rolling average)
3) SCR inlet temperature <600°F (30-day rolling average)

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

<table>
<thead>
<tr>
<th>POLLUTANT</th>
<th>HOUPLY EMISSION LIMIT (lb/hr)</th>
<th>ANNUAL EMISSION LIMIT (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen Oxides</td>
<td>720[2]</td>
<td>5,621</td>
</tr>
<tr>
<td></td>
<td>1400[3]</td>
<td></td>
</tr>
<tr>
<td>Volatile Organic Compounds</td>
<td>20.4</td>
<td>82.0</td>
</tr>
</tbody>
</table>

TABLE V-A-1: Main Boiler Emission Limitations
f. If the NOX Averaging Plan described in Condition IV.22 above is terminated by ownership transfer or permit application to terminate the plan, the NOX emission limitations of V.A.1.b and V.A.1.d above shall be demonstrated for Cheswick Main Boiler No. 1 independent of the other units in the averaging plan (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.125 Pa. Code §129.100)

3. Monitoring Requirements:


1) catalytic bed inlet gas temperature,
2) ammonia solution injection rate, and
3) ammonia solution concentration (receipt of certification from vendor).

b. The permittee shall operate and maintain the SCR equipment and monitoring instrumentation in accordance with the manufacturer’s specifications and good air pollution control practice. (§2105.03, §2102.04.b.6, IP No. 0054-I002, Condition V.A.3.b, issued June 13, 2001, 25 Pa. Code §129.100)

c. The permittee shall certify, operate, and maintain continuous emission monitors in accordance with 40 CFR Part 75 or approved alternative for SO2, volumetric gas flowrate, NOx, and CO2 emissions from the new main boiler stack. (40 CFR 75, Article XXI §2103.22.j, §2103.50, IP No. 0054-I004b Condition V.A.3.b, 25 Pa. Code §129.100)

1) Continuous monitoring systems shall comply with the Installation and Performance Specifications of appendix A of Part 75. (40 CFR 75.10(b))

2) The permittee shall determine and record the heat input for every hour or part of an hour of any fuel that is combusted per Appendix F of Part 75. (40 CFR 75.10(b))

3) Continuous monitoring systems shall meet the minimum data availability requirements in 40 CFR part 75. (40 CFR 75)

4) The NOx and SO2 CEMs shall record emissions in terms of lb/MBtu and lb/hr for each pollutant. (§2108.03.b.4, §2102.04.b.6)

4. Record Keeping Requirements:

a. The permittee shall maintain all appropriate records to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 217. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 217 are met. The permittee 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 §2105.06 and RACT Order No. 217. Such information shall include, but not be limited to, the following minimum information which shall be submitted to the Department as a written report at three month intervals: (§2108.03.d, §2105.06, RACT Order No. 217, Condition 1.4, 25 Pa. Code §129.100)

1) All recording and reporting required by Section 2108.03 of Article XXI, and entitled “Continuous Emission Monitoring.”
2) An identification of each instance during the reporting period during which emissions exceeded the applicable emission limitations rates in condition V.A.1.b above and an identification of the reasons, if known, for such exceedance. The averaging period used for making such identification shall correspond to the averaging period specified in condition V.A.1.b above.
3) An identification of each period during which the continuous emission monitoring system was inoperative, except for zero and span drift checks, the reasons therefore, and the nature of repairs or adjustments performed or to be performed.
4) An identification of calibrations, zero and span drift checks, and other quality assurance procedures.

b. The permittee shall keep and maintain the following data for Main Boiler No. 1: (§2102.04.b.6, §2103.12.j, IP No. 0054-I004b Condition V.A.4.a, 25 Pa. Code §129.100)

1) Type and amount of fuel used (tons of coal/day, MMscf of natural gas/day);
2) Amount of synfuel used each month (tons);
3) Records of the type of synfuel binder used each month and the material safety data sheets for each binder used;
4) Steam load (lbs/hr, lbs/day; average daily steam load for each month);
5) Total operating hours, (hours/day, monthly and 12-month);
6) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment;
7) Stack test protocols and reports;
8) Data specified to be monitored in Condition V.A.3 above; and

c. The permittee shall maintain records of all air pollution control system performance evaluations and all records of calibration checks, adjustments, and maintenance performed on all equipment which is subject to this permit. (IP No.0054-I002, Condition V.A.4.b, issued June 13, 2001, §2103.05, 25 Pa. Code §129.100)

d. The permittee shall maintain a copy of the manufacturer’s specifications for the SCR air pollution control equipment on-site. (IP No.0054-I002, Condition V.A.4.c, issued June 13, 2001, 25 Pa. Code §129.100)

e. The permittee shall keep a record of the date, time, and cause of the malfunction of all air pollution control systems, and the action taken to correct the malfunction. (IP No.0054-I002, Condition V.A.4.d, issued June 13, 2001, §2108.01.b & §2108.01.c, 25 Pa. Code §129.100)

f. The permittee shall record at a minimum the following SCR control system information: (IP No. 0054-I002, Condition V.A.4.e, issued June 13, 2001, 25 Pa. Code §129.100)
1) Catalytic bed inlet temperature, ammonia solution injection rate, and ammonia solution concentration (once each shift).
2) All instances or episodes when the catalyst was bypassed due to boiler upset conditions and low boiler load conditions when the boiler exhaust temperature is outside of the operating range of the SCR catalyst (each occurrence).
3) All instances when the catalyst is bypassed (each occurrence).

g. 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, IP No.0054-I002, Condition V.A.4.a, issued June 13, 2001, §2108.01.b & §2108.01.c, 25 Pa. Code §129.100)

h. The permittee shall prepare and maintain on-site a QA/QC Plan as described in 40 CFR Part 75 Appendix B. (40 CFR §75.50(a)(4)) The permittee shall also maintain a file of all measurements, data, reports, and other required information for at least five years. (40 CFR §75.54, 25 Pa. Code §129.100)

i. All records of all required monitoring data and support information shall be retained by the facility for at least five (5) years. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. 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)

j. 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 non-compliance information required to be recorded by V.A.4.g above 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, 25 Pa. Code §129.100)

b. The permittee shall submit the results of the continuous nitrogen oxides monitoring systems on a regular schedule and in a format acceptable to the Department and in compliance with the USEPA Clean Air Markets Division Part 75 requirements. (§2108.03.b.3, 25 Pa. Code §129.100)

c. Within 30 days of the end of each calendar quarter, the following shall be reported to the Department: (Permit No. 1065009-003-00100, issued December 8, 1981; IP No. 0054-I002, Condition V.A.5.a, issued June 13, 2001; §2103.12.k.1, IP No. 0054-I004b Condition V.A.5.c, 25 Pa. Code §129.100)

   1) Amount of coal fired each month (tons);
   2) Daily average and rolling 30-day average NOx emissions and cumulative 12-month total NOx emissions (lb/MMBtu and lb/hr; tons/year); and
   3) Cumulative 12-month synfuel usage for each month during the compliance period.

d. The permittee shall provide the Department written notice 21 days prior to dates of periodic relative accuracy testing audits per 40 CFR 75.61(a)(5). (40 CFR §75.21(d), Article XXI §2103.22.j, §2103.50, 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 not, at any time, operate Main Boiler No. 1 unless the subject boiler, including the low NOx concentric firing system II, is properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 217, Conditions 1.1 and 1.6, issued March 8, 1996; §2105.06; §2105.03, 25 Pa. Code §129.99)

b. All air pollution control equipment required by this Article or any permit or order under this Article, and all equivalent compliance techniques which have been approved by the Department pursuant to this Article, shall be properly installed, calibrated maintained, and operated consistent with good air pollution control practice. (§2105.03, IP No. 0054-I004b Condition V.A.6.a, 25 Pa. Code §129.99)

c. The permittee shall take corrective action if an out of control period occurs to a monitoring system (e.g., continuous emission monitor). (40 CFR §75.24, Article XXI §2103.22.j, §2103.50, IP No. 0054-I004b Condition V.A.6.b, 25 Pa. Code §129.100)

d. The failure to install and operate any continuous emissions monitoring system required by §2108.03 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 (§2109.02, §2108.03.f, IP No. 0054-I004b Condition V.A.6.c, 25 Pa. Code §129.100)
B. **Auxiliary Boiler, Stack No. 2**

**Process Description:** Oil-fired external combustion boiler  
**Facility ID:** Auxiliary Boiler  
**Max. Design Rate:** 160 MMBtu/hr  
**Raw Materials:** No. 2 Fuel Oil, 0.05% (wt.) sulfur content  
**Control Device:** None

1. **Restrictions:**
   
   a. The permittee shall continue to meet the conditions of Operating Permit No. 0054, in addition to the revisions in this permit. (§2102.04.b.5)
   
   b. The permittee shall limit the heat input rate to the Auxiliary Boiler to less than 140,160 MMBtu per twelve (12) consecutive month period (10 percent annual capacity factor). (§2103.12.a.2.B, §2105.06.b, §63.7575, 25 Pa. Code §129.99)
   
   
   d. All fuel oil purchased by the permittee beginning July 1, 2016 for the Auxiliary Boiler shall meet ASTM specifications for No.2 fuel oil and have a maximum sulfur content at or less than 0.05% by weight at all times. Commercial fuel oil that was stored in this Commonwealth by the ultimate consumer prior to July 1, 2016, which met the applicable maximum allowable sulfur content at the time it was stored, may be used by the ultimate consumer in this Commonwealth on and after July 1, 2016. (§2103.12.h.1, Permit No. 106509-003-00600, issued May 2, 1995; PA Code 25 123.22(d)(2)(ii), PA Code 25 123.22(d)(2)(iii), 25 Pa. Code §129.100)
   
   e. Emissions from The Auxiliary Boiler shall not exceed the following at any time: (25 Pa. Code §129.97(g)(1)(ii), 25 Pa. Code §129.99)

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

<table>
<thead>
<tr>
<th>POLLUTANT</th>
<th>HOURLY EMISSION LIMIT (lb/hr)</th>
<th>ANNUAL EMISSION LIMIT (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen Oxides</td>
<td>19.2</td>
<td>8.4</td>
</tr>
<tr>
<td>Volatile Organic Compounds</td>
<td>0.3</td>
<td>0.13</td>
</tr>
</tbody>
</table>

   (1) A year is defined as any 12 consecutive months.  
   (2) 30-day rolling average basis


   g. If the NOX Averaging Plan described in Condition IV.22 above is terminated by ownership transfer or permit application to terminate the plan, the NOX emission limitations of V.B.1.c and V.B.1.e...

2. **Testing Requirements:**

   a. The permittee shall perform nitrogen oxides emissions testing on the Auxiliary Boiler at least once every five years in order to demonstrate compliance with the emission limitations of this permit. Such testing shall be conducted in accordance with U.S. EPA test method 7E or an alternative method approved by the Department and Article XXI §2108.02. (§2103.12.h.1; §2108.02.b, §2108.02.c.e., 25 Pa. Code §129.100)

   b. Unless specifically requested in writing by the Department, emissions testing on the Auxiliary Boiler specified in Condition V.B.2.a above is not required until the unit has operated 876 hours during any 12 consecutive months. (§2103.12.h.1, 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, 25 Pa. Code §129.100]

3. **Monitoring Requirements:**

   The permittee shall operate and maintain a fuel flow meter to monitor the amount of fuel oil combusted in the Auxiliary Boiler. (§2103.12.i, 25 Pa. Code §129.100)

4. **Record Keeping Requirements:**

   a. The permittee shall maintain all appropriate records to demonstrate compliance with the requirements of both Section 2105.06 Article XXI, and conditions V.B.1.b and V.B.6.b below. Such records shall provide sufficient data to clearly demonstrate that all requirements of Section 2105.06 of Article XXI, and conditions V.B.1.b and V.B.6.b below, are being met. (§2105.06.g, 25 Pa. Code §129.100)

   b. The permittee shall keep and maintain the following data for the Auxiliary Boiler: (§2103.12.h.1, §63.7525(k), 25 Pa. Code §129.100)

      1) Amount of fuel oil used (daily and 12-month, gallons);
      2) Records of fuel oil supplier’s certification of sulfur content, and fuel oil heating value (each shipment received);
      3) Total operating hours, (hours/day, monthly and 12-month);
      4) Total heat input rate (12-month, MMBtu)
      5) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment.
      6) Stack test protocols and reports.
      7) Records of the annual adjustment required by V.B.6.b below.

   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 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 on a semi-annual basis. The reports shall contain all required information for the time period of the report: (§2103.12.k.1, 25 Pa. Code §129.100)

b. Monthly and 12-month data required to be recorded by condition V.B.4.b above (, 25 Pa. Code §129.100);
   1) A statement from the permittee that the record of fuel supplier certifications required by condition V.B.4.b above represents all the fuel oil received during the reporting period; and
   2) Non-compliance information required to be recorded by V.B.4.c above.

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

6. Work Practice Standard:

a. The permittee shall not, at any time, operate the Auxiliary Boiler unless the subject boiler is properly operated and maintained according to good engineering and air pollution control practices. (§2105.03, 25 Pa. Code §129.99)

b. The permittee shall conduct a tune-up of the Auxiliary Boiler at least once every 5 years from the date of the last tune-up. (§63.7500(a)(1): Subpart 5D Table 3, Item #1, 25 Pa. Code §129.99)
VI. ALTERNATIVE OPERATING SCENARIOS

No alternative operating scenarios exist for this operation.
VII. EMISSIONS LIMITATIONS SUMMARY

The following table summarizes the estimated annual maximum potential emissions (which may not include fugitive) from the GenOn Cheswick Main Boiler No. 1 and the Auxiliary Boiler. These annual (consecutive 12 month) potential emission estimates assume that all sources operate continuously.

<table>
<thead>
<tr>
<th>POLLUTANT</th>
<th>ANNUAL EMISSION LIMIT (tons/year)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen Oxides (NOX)</td>
<td>5,629</td>
</tr>
<tr>
<td>Volatile Organic Compounds (VOC)</td>
<td>82.1</td>
</tr>
</tbody>
</table>

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

The Cheswick Generating Station (Cheswick) is defined as a major source of NOx 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 NOx and VOC

The Permittee has elected to enter into a system-wide NOx emissions averaging plan with the Brunot Island Generating Station, as per 25 PA Code §129.98. The following Sources are included in a NOx 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.

There are no technically feasible control options for VOC at the Cheswick Main Boiler No. 1.

II. Regulatory Basis

ACHD requested all major sources of NOx (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 NOx and/or VOC RACT for incorporation into Allegheny County’s portion of the PA SIP. The non-exempt sources at Cheswick (Main Boiler No. 1 and the Auxiliary Boiler) both meet their presumptive RACT requirements. The facility has requested that these units along with Combustion Turbines, 1A, 2A, 2B and 3 from the Brunot Island Generating Station be added into a system-wide NOx emissions averaging plan, as per 25 Pa Code 129.98. This document is the result of ACHD’s determination of RACT for these two emission sources at Cheswick based on the materials submitted by the subject source and other relevant information.
III. Facility Description, Existing RACT I and Sources of NOx

The Cheswick Generating Station is an electric generating facility located on Pittsburgh and Porter Streets in Springdale, PA. The plant is composed of one main boiler exhausting to one stack, which fires coal (including synfuel) as the primary fuel and natural gas as an auxiliary fuel for startup, shutdown, and during upset conditions. Pollution control equipment for the main boiler includes low NOx burners, electrostatic precipitation with flue gas conditioning, selective catalytic reduction, and flue gas desulfurization (FGD). The plant also has a No. 2 oil-fired auxiliary boiler which exhausts to a separate stack. Cheswick is a major source of NOx and VOC emissions.

On March 8th, 1996 the facility entered into a consent decree with the Department to meet RACT I obligations under RACT Order No. 217. RACT Order 217 was approved as RACT by EPA in 2001 (66 FR 52867). The RACT I requirements are to operate the Main Boiler No. 1 with properly maintained and operated low NOx concentric firing system II and a NOx CEMS. The NOx emissions were limited to 0.5548 lbNOx/MMBtu (24 hours), 0.45 lbNOx/MMBtu (annually), and 10,840 tons NOx/yr. All processes and controls are to be operated and maintained according to good engineering practice. Additional requirements are to maintain records of production and fuel usage demonstrating compliance.

Table 2  Facility Sources Subject to Case-by-Case RACT II and Their Existing RACT I Limits

<table>
<thead>
<tr>
<th>Source ID</th>
<th>Description</th>
<th>Rating</th>
<th>NOx PTE (TPY)</th>
<th>VOC PTE (TPY)</th>
<th>Basis for Presumptive</th>
<th>Presumptive RACT Requirement (25 Pa Code Section 129.97)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-001</td>
<td>Main Boiler No. 1: Tangentially-Fired Coal Boiler</td>
<td>5,500 MMBtu/hr (maximum continuous rating)</td>
<td>10,840</td>
<td>82.0</td>
<td>129.97(g)(1)(viii)</td>
<td>0.12 lb/MMBtu NOx, when the inlet temperature to the SCR is equal to or greater than 600 degrees Fahrenheit (30-day rolling average); 0.35 lb/MMBtu NOx, when the inlet temperature to the SCR is less than 600 degrees Fahrenheit (30-day rolling average); and 5,621 ton/yr.</td>
</tr>
<tr>
<td>S-002</td>
<td>Auxiliary Boiler: No. 2 fuel oil-fired</td>
<td>160 MMBtu/hr</td>
<td>10.2</td>
<td>0.13</td>
<td>129.97(g)</td>
<td>0.12 lb/MMBtu/hr NOx on a 30-day rolling average, and 8.4 tons/yr.</td>
</tr>
<tr>
<td></td>
<td>Diesel Compressor</td>
<td>465 HP</td>
<td>1.61</td>
<td>1.61</td>
<td>129.97(c)</td>
<td>The permittee shall install, maintain and operate the source in accordance with the manufacturer’s specifications and with good operating practices.</td>
</tr>
<tr>
<td></td>
<td>Diesel Compressor</td>
<td>465 HP</td>
<td>1.61</td>
<td>1.61</td>
<td>129.97(c)</td>
<td>The permittee shall install, maintain and operate the source in accordance with the manufacturer’s specifications and with good operating practices.</td>
</tr>
</tbody>
</table>

Table 3  Facility Sources Subject to the Presumptive RACT II per PA Code 129.97

<table>
<thead>
<tr>
<th>Source ID</th>
<th>Description</th>
<th>Rating</th>
<th>NOx PTE (TPY)</th>
<th>VOC PTE (TPY)</th>
<th>Basis for Presumptive</th>
<th>Presumptive RACT Requirement (25 Pa Code Section 129.97)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-001</td>
<td>Main Boiler No. 1: Tangentially-Fired Coal Boiler</td>
<td>5,500 MMBtu/hr (maximum continuous rating)</td>
<td>10,840</td>
<td>82.0</td>
<td>129.97(g)(1)(viii)</td>
<td>0.12 lb/MMBtu NOx, when the inlet temperature to the SCR is equal to or greater than 600 degrees Fahrenheit (30-day rolling average); 0.35 lb/MMBtu NOx, when the inlet temperature to the SCR is less than 600 degrees Fahrenheit (30-day rolling average); and 5,621 ton/yr.</td>
</tr>
<tr>
<td>S-002</td>
<td>Auxiliary Boiler: No. 2 fuel oil-fired</td>
<td>160 MMBtu/hr</td>
<td>10.2</td>
<td>0.13</td>
<td>129.97(g)</td>
<td>0.12 lb/MMBtu/hr NOx on a 30-day rolling average, and 8.4 tons/yr.</td>
</tr>
<tr>
<td></td>
<td>Diesel Compressor</td>
<td>465 HP</td>
<td>1.61</td>
<td>1.61</td>
<td>129.97(c)</td>
<td>The permittee shall install, maintain and operate the source in accordance with the manufacturer’s specifications and with good operating practices.</td>
</tr>
<tr>
<td></td>
<td>Diesel Compressor</td>
<td>465 HP</td>
<td>1.61</td>
<td>1.61</td>
<td>129.97(c)</td>
<td>The permittee shall install, maintain and operate the source in accordance with the manufacturer’s specifications and with good operating practices.</td>
</tr>
</tbody>
</table>

Table 4  Facility Sources Exempt from RACT II per PA Code 129.96(c) {< 1 TPY NOx}

<table>
<thead>
<tr>
<th>Source ID</th>
<th>Description</th>
<th>Rating</th>
<th>NOx PTE (TPY)</th>
<th>VOC PTE (TPY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B001</td>
<td>Space Heaters (7 units)</td>
<td>0.6 x 4, 0.35 x 2, 0.15 x 1 [MMBtu/hr x Quantity]</td>
<td>&lt; 0.25 (largest unit)</td>
<td>&lt;0.1</td>
</tr>
</tbody>
</table>
IV. **RACT Determination**

The Main Boiler No. 1 and Auxiliary Boiler at Cheswick are able to meet the Presumptive Requirements per PA Code 129.97. Those requirements were included in the Cheswick Title V Permit renewal, issued on November 21, 2017. The potential NO\textsubscript{X} emissions in the Main Boiler No. 1 and the Auxiliary Boiler were reduced from 10,840 (RACT I limit) to 5,621 ton/year and 31.8 to 10.2 tons/year, respectively. The permittee submitted an official request to establish a NO\textsubscript{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\textsubscript{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\textsubscript{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\textsubscript{X} mass and compared as illustrated below.

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

Where,
\( E_{i\text{actual}} = \) The actual NO\textsubscript{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\textsubscript{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\textsubscript{X} mass emissions.

\( n = \) The number of air contamination sources included in the NO\textsubscript{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:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Daily Operating Hours</th>
<th>Rated Heat Input</th>
<th>Applicable Averaging Plan Limit</th>
<th>Actual Rate</th>
<th>Actual NO\textsubscript{X} Mass</th>
<th>Allowable NO\textsubscript{X} Mass</th>
<th>Monitoring and Recordkeeping Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheswick Boiler No. 1</td>
<td>24.0</td>
<td>5500</td>
<td>0.12</td>
<td>0.10</td>
<td>198.0</td>
<td>237.6</td>
<td>1, 3</td>
</tr>
<tr>
<td>Cheswick Auxiliary</td>
<td>4.0</td>
<td>160</td>
<td>0.12</td>
<td>0.13</td>
<td>1.2</td>
<td>1.2</td>
<td>4</td>
</tr>
<tr>
<td>Island CT-1A</td>
<td>4.0</td>
<td>300</td>
<td>0.37</td>
<td>0.50</td>
<td>10.6</td>
<td>0.7</td>
<td>4</td>
</tr>
<tr>
<td>Island CT-2A</td>
<td>8.0</td>
<td>918</td>
<td>0.013</td>
<td>0.011</td>
<td>1.2</td>
<td>1.2</td>
<td>2, 3</td>
</tr>
<tr>
<td>Island CT-2B</td>
<td>8.0</td>
<td>918</td>
<td>0.013</td>
<td>0.011</td>
<td>1.2</td>
<td>1.4</td>
<td>3, 3</td>
</tr>
<tr>
<td>Island CT-3</td>
<td>8.0</td>
<td>918</td>
<td>0.013</td>
<td>0.011</td>
<td>1.2</td>
<td>1.4</td>
<td>3, 3</td>
</tr>
</tbody>
</table>

**System-Wide Averaging Plan Results:** 213.5 <= 249.7

1. Certified NO\textsubscript{X} and CO\textsubscript{2} CEMs and certified exhaust gas volumetric flow rate monitor per 40 CFR 75 procedures
2. Certified NO\textsubscript{X} and CO\textsubscript{2} CEMs at 40 CFR 75 procedures
3. Certified natural gas flow meter for 40 CFR 75 procedures
4. Certified No. 2 fuel oil meter per 40 CFR 75 procedures plus emission rate from recent compliance stack test
The Main Boiler No. 1 does not have a Presumptive Requirement for VOC as per PA Code 129.97. A case-by-case RACT evaluation was performed for the Main Boiler No. 1. Catalytic oxidation has been used to control VOC emissions from natural gas-fired combustion turbines since oxidation catalysts are suitable for gas streams with negligible particulate loading. However, catalytic oxidation is not a demonstrated technology for PC-fired boilers. Catalyst can be clogged when there is high particulate loading. Oxidation catalyst can be installed after an ESP but that control device lowers the exhaust gas below the catalyst optimum temperature. Therefore, this option was removed from further consideration and no other control options for VOC were found to be technically feasible.

The Department has determined that the VOC RACT, for the Main Boiler No. 1, is continued compliance with existing requirements. The existing permit effectively limits the VOC emissions to less than 0.0034 lb/MMBtu, annually. To put the selected RACT limits into a broader context, the Department reviewed the EPA’s RBLC (i.e., Code: 11.220 Utility and Large Industrial Size Boilers/Furnaces >250 MMBtu/hr Coal) over the last 10 years. The VOC limits are comparable with the VOC limits identified in the RBLC search.

V. RACT Emissions Summary

The conditions of Plan Approval Order and Agreement No. 217, issued March 8th, 1996, have been superseded by the case-by-case and presumptive RACT II conditions in this proposed permit. The RACT II conditions are at least as stringent as those from RACT I. Based on the findings in this RACT analysis, the Cheswick facility emissions can be summarized as follows:

<table>
<thead>
<tr>
<th>Table 5</th>
<th>RACT II NOx Emissions Reduction Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx Potential Emissions (tpy)</td>
<td>PTE Prior to RACT II</td>
</tr>
<tr>
<td>10,883</td>
<td>5,241</td>
</tr>
</tbody>
</table>

As shown in Table 5, the RACT II conditions reduced 5,241 tons of potential NOx emissions from the Cheswick facility.

<table>
<thead>
<tr>
<th>Table 6</th>
<th>RACT II VOC Emissions Reduction Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC Potential Emissions (tpy)</td>
<td>PTE Prior to RACT II</td>
</tr>
<tr>
<td>82.1</td>
<td>0</td>
</tr>
</tbody>
</table>

As shown in Table 6, the RACT II conditions reduced 0 tons of potential VOC emissions from the Cheswick facility.

VI. RACT II Permit Conditions

<table>
<thead>
<tr>
<th>Source ID</th>
<th>Description</th>
<th>Permit 0054-1005 Condition</th>
<th>Regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHESWICK MAIN BOILER NO. 1, CHESWICK AUXILIARY BOILER, BRUNOT ISLAND</td>
<td>Condition IV.22.a</td>
<td>25 PA Code §129.97</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condition IV.22.b</td>
<td>25 PA Code §129.98</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condition IV.22.c</td>
<td>25 PA Code §129.100</td>
<td></td>
</tr>
<tr>
<td>Source ID</td>
<td>Description</td>
<td>Permit 0054-1005 Condition</td>
<td>Regulations</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------</td>
<td>-----------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>005-1005</td>
<td>COMBUSTION TURBINES 2A, 2B AND 3, and BRUNOT ISLAND COMBUSTION TURBINE 1A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Main Boiler No. 1</td>
<td>Condition V.A.1.b</td>
<td>25 PA Code §129.97(g)(vi)(B), §129.97(g)(viii), §129.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.1.c</td>
<td>25 PA Code §129.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.1.d</td>
<td>25 PA Code §129.97(g)(vi)(B), §129.97(g)(viii), §129.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.1.e</td>
<td>25 PA Code §129.99, §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.1.f</td>
<td>25 PA Code §129.99, §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.2</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.3.a</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.3.b</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.3.c</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.a</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.b</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.c</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.d</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.e</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.f</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.g</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.h</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.i</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.4.j</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.5.a</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.5.b</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.5.c</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.5.d</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.6.a</td>
<td>25 PA Code §129.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.6.b</td>
<td>25 PA Code §129.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.6.c</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.A.6.d</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td>Auxiliary Boiler</td>
<td>Condition V.B.1.b</td>
<td>25 PA Code §129.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.1.c</td>
<td>25 PA Code §129.97(g)(1)(ii), §129.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.1.d</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.1.e</td>
<td>25 PA Code §129.97(g)(1)(ii), §129.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.1.f</td>
<td>25 PA Code §129.99, §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.1.g</td>
<td>25 PA Code §129.99, §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.2.a</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.2.b</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.2.c</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.3</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.4.a</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.4.b</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.4.c</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.4.d</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.5.a</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.5.b</td>
<td>25 PA Code §129.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.6.a</td>
<td>25 PA Code §129.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition V.B.6.b</td>
<td>25 PA Code §129.99</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Station</th>
<th>Source Description</th>
<th>Proposed RACT II Rule Compliance Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheswick</td>
<td>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)</td>
<td>Presumptive RACT - maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices: an emergency standby engine operating &lt; 500 hours in a 12-month rolling period</td>
</tr>
<tr>
<td>Brunot Island</td>
<td>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)</td>
<td></td>
</tr>
<tr>
<td>Cheswick</td>
<td>Space Heaters, all rated at &lt; 20 MMBtu/hr</td>
<td>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 &lt; 20 MMBtu/hr</td>
</tr>
<tr>
<td>Brunot Island</td>
<td>Diesel fuel-fired starter engine for CT-1A, 1 engine rated at 460 Hp (3.4 MMBtu/hr heat input)</td>
<td></td>
</tr>
<tr>
<td>Cheswick</td>
<td>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)</td>
<td>Presumptive RACT NOx emission limits and system-wide NOx emissions averaging plan per 25 Pa. Code §§129.97(g)(1)(vi)(A) and (ix) and 129.98 - please see below.</td>
</tr>
<tr>
<td>Cheswick</td>
<td>Auxiliary Boiler, rated at 160 MMBtu/hr heat input fired with No. 2 fuel oil</td>
<td></td>
</tr>
<tr>
<td>Brunot Island</td>
<td>Combustion Turbine 1A – simple-cycle CT fired with No. 2 fuel oil, electric generator with nominal maximum electrical output = 20 MW</td>
<td></td>
</tr>
<tr>
<td>Brunot Island</td>
<td>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</td>
<td></td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>Citation (25 Pa. Code)</th>
<th>Requirement</th>
<th>NRG’s Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>§129.98(a)</td>
<td>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</td>
<td>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</td>
</tr>
<tr>
<td>§129.98(a)</td>
<td>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</td>
<td>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.</td>
</tr>
<tr>
<td>§129.98(b)</td>
<td>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</td>
<td>Application for Cheswick and Brunot Island enclosed herein.</td>
</tr>
<tr>
<td>§129.98(c)</td>
<td>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</td>
<td>Please see table below</td>
</tr>
<tr>
<td>§129.98(d)</td>
<td>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</td>
<td>Please see table below which provides the emissions calculations and a simulated example for illustration purposes.</td>
</tr>
<tr>
<td>Citation (25 Pa. Code)</td>
<td>Requirement</td>
<td>NRG’s Response</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------</td>
<td>----------------</td>
</tr>
<tr>
<td>§129.98(f)</td>
<td>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.</td>
<td>The applicant is NRG Power Midwest LP, the owner of Cheswick and Brunot Island.</td>
</tr>
<tr>
<td>§129.98(g)</td>
<td>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).</td>
<td>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</td>
</tr>
</tbody>
</table>
The following units will be included in the subject system-wide NOx emissions averaging plan:

<table>
<thead>
<tr>
<th>Station</th>
<th>Unit Designation</th>
<th>Fuel</th>
<th>§129.97 NOx Emission Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheswick</td>
<td>Boiler No. 1 with SCR</td>
<td>Coal</td>
<td>0.12 lb/MMBtu when flue gas temperature at SCR inlet ≥ 600 deg. F</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.35 lb/MMBtu when flue gas temperature at SCR inlet &lt; 600 deg. F</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Natural Gas *</td>
<td>0.10 lb/MMBtu</td>
</tr>
<tr>
<td>Cheswick</td>
<td>Auxiliary Boiler</td>
<td>Distillate Oil</td>
<td>0.12 lb/MMBtu</td>
</tr>
<tr>
<td>Brunot Island</td>
<td>CT-1A</td>
<td>Distillate Oil</td>
<td>96 ppmv, dry @ 15% O\textsubscript{2} = 0.37 lb/MMBtu</td>
</tr>
<tr>
<td>Brunot Island</td>
<td>CT-2A</td>
<td>Natural Gas</td>
<td>42 ppmvd @ 15% O\textsubscript{2} = 0.155 lb/MMBtu</td>
</tr>
<tr>
<td>Brunot Island</td>
<td>CT-2B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brunot Island</td>
<td>CT-3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*: Heat input from natural gas firing may be ≥ 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

<table>
<thead>
<tr>
<th>Unit</th>
<th>Daily Operating Hours (hrs)</th>
<th>Rated Heat Input (MMBtu/hr)</th>
<th>Applicable Averaging Plan Limit (lb/MMBtu)</th>
<th>Actual Rate (lb/MMBtu)</th>
<th>Actual NOx Mass (tons)</th>
<th>Allowable NOx Mass (tons)</th>
<th>Monitoring and Recordkeeping Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheswick Boiler No. 1</td>
<td>24.0</td>
<td>5500</td>
<td>0.12</td>
<td>0.10</td>
<td>198.0</td>
<td>237.6</td>
<td>1, 3</td>
</tr>
<tr>
<td>Cheswick Auxiliary Boiler</td>
<td>4.0</td>
<td>160</td>
<td>0.12</td>
<td>0.13</td>
<td>1.2</td>
<td>1.2</td>
<td>4</td>
</tr>
<tr>
<td>Brunot Island CT-1A</td>
<td>4.0</td>
<td>300</td>
<td>0.37</td>
<td>0.59</td>
<td>10.6</td>
<td>6.7</td>
<td>4</td>
</tr>
<tr>
<td>Brunot Island CT-2A</td>
<td>8.0</td>
<td>918</td>
<td>0.013</td>
<td>0.011</td>
<td>1.2</td>
<td>1.4</td>
<td>2, 3</td>
</tr>
<tr>
<td>Brunot Island CT-2B</td>
<td>8.0</td>
<td>918</td>
<td>0.013</td>
<td>0.011</td>
<td>1.2</td>
<td>1.4</td>
<td>2, 3</td>
</tr>
<tr>
<td>Brunot Island CT-3</td>
<td>8.0</td>
<td>918</td>
<td>0.013</td>
<td>0.011</td>
<td>1.2</td>
<td>1.4</td>
<td>2, 3</td>
</tr>
</tbody>
</table>

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
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 statewide, 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 NOx limits for boilers and combustion turbines (CTs), and VOC limits for CTs. Example: 0.12 lb/MMBtu NOx 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 NOx emission limit, then the rule allows for a compliance path via a NOx 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 NOx 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 NOx CEMs.

- Completion of compliance stack test programs are required at the Cheswick Auxiliary Boiler (NOx), Brunot Island CT-1A (NOx 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 (NOx) and Brunot Island CT-1A (NOx 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 (NOx) 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*

<table>
<thead>
<tr>
<th>CT</th>
<th>VOC concentration (ppmvd) **</th>
<th>O2 concentration (%)</th>
<th>VOC concentration (ppmvd @ 15% O2) **</th>
<th>Applicable RACT II Rule VOC Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2A</td>
<td>0.4</td>
<td>13.7</td>
<td>0.3</td>
<td>5 ppmvd @ 15% O2 **</td>
</tr>
<tr>
<td>2B</td>
<td>0.3</td>
<td>14.2</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.5</td>
<td>14.6</td>
<td>0.4</td>
<td></td>
</tr>
</tbody>
</table>

*: 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
Title 25—ENVIRONMENTAL PROTECTION
ENVIRONMENTAL QUALITY BOARD
[25 PA. CODE CHS. 121 AND 129]

Additional RACT Requirements for Major Sources of NOx 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 (NOx) 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 NOx 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 5202 (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 NOx. 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. NOx 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 NOX emitting facility—A facility which emits or has the potential to emit NOx 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) 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 NOx 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.
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 degas-
sing 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 pro-
duces petroleum products, including gasoline, from refin-
ery units.

Refinery unit—A basic process operation, such as distil-
ation hydrotreating, cracking or reforming of hydrocar-
bons which is made up of a set of refinery components.

Regenerative cycle combustion turbine—A stationary
combustion turbine which recovers heat from the combus-
tion turbine exhaust gases to preheat the inlet combus-
tion 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 atmo-
spheric 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 combus-
tion turbine which does not recover heat from the combus-
tion turbine exhaust gases to preheat the inlet combus-
tion 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 sys-
tems, control systems (except emissions control equip-
ment), 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 sys-
tem. 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—

(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 com-
pressor 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 pur-
poses 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 transferr-
ing material between different transportation convey-
ances are also excluded from this definition.

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

§ 129.96. Applicability.
(a) The NOx requirements of this section and
§§ 129.97—129.100 apply Statewide to the owner and
operator of a major NOx emitting facility and the VOC
requirements of this section and §§ 129.97—129.100 ap-
ply 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 NOx requirements of this section and
§§ 129.97—129.100 apply Statewide to the owner and
operator of a NOx emitting facility and the VOC require-
ments of this section and §§ 129.97—129.100 apply State-
wide 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 defini-
tion of a major NOx 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 NOx air contamination source
located at a major NOx emitting facility that has the
potential to emit less than 1 TPY of NOx 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 NOx 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 NOx

PENNSYLVANIA BULLETIN, VOL. 46, NO. 17, APRIL 23, 2016
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 NOx 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 NOx 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 NOx 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 NOx 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).

(e) The owner and operator of a source specified in this subsection, which is located at a major NOx 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 NOx air contamination source that has the potential to emit less than 5 TPY of NOx.

(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 WW (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 NOx @ 7% oxygen.
(g) Except as specified under subsection (c), the owner and operator of a NO\textsubscript{x} air contamination source specified in this subsection, which is located at a major NO\textsubscript{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\textsubscript{x} or VOCs to be emitted from the air contamination source in excess of the applicable prescriptive 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\textsubscript{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\textsubscript{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\textsubscript{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\textsubscript{x}/million Btu heat input.
   (v) For a coal-fired combustion unit or process heater 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\textsubscript{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\textsubscript{x}/million Btu heat input.
       (B) A tangentially fired combustion unit, 0.35 lb NO\textsubscript{x}/million Btu heat input.
       (C) Any other type of coal-fired combustion unit, 0.40 lb NO\textsubscript{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\textsubscript{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\textsubscript{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\textsubscript{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\textsubscript{x} @ 15% oxygen.
       (B) Fuel oil, 96 ppmvd NO\textsubscript{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\textsubscript{x} @ 15% oxygen.
       (B) Fuel oil, 8 ppmvd NO\textsubscript{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\textsubscript{x} @ 15% oxygen.
       (B) Fuel oil, 150 ppmvd NO\textsubscript{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\textsubscript{x} @ 15% oxygen.
       (B) Fuel oil, 96 ppmvd NO\textsubscript{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\textsubscript{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\textsubscript{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\textsubscript{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:
   
   \[
   E_{H_{\text{weighted}}} = \sum_{i=1}^{n} \frac{H_i}{E_i} \frac{1}{H_{\text{weighted}}} = \sum_{i=1}^{n} \frac{H_i}{E_i}
   \]

   Where:
   
   \[
   E_{H_{\text{weighted}}} = \text{The heat input fuel weighted multiple fuel emission rate or emission limitation for the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.}
   \]
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_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\textsubscript{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\textsubscript{x} per ton of clinker produced for a long dry-process cement kiln as defined in § 145.142.

3. 2.36 pounds of NO\textsubscript{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\textsubscript{x} and VOCs) to control, reduce or minimize NO\textsubscript{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\textsubscript{x} requirements; emissions of NO\textsubscript{x} from stationary internal combustion engines; and emissions of NO\textsubscript{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\textsubscript{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\textsubscript{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\textsubscript{x} emissions averaging plan general requirements.

(a) The owner or operator of a major NO\textsubscript{x} emitting facility subject to § 129.96 (relating to applicability) that includes at least one air contamination source subject to a NO\textsubscript{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\textsubscript{x} RACT emission limitation may elect to meet the applicable NO\textsubscript{x} RACT emission limitation in § 129.97 by averaging NO\textsubscript{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\textsubscript{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\textsubscript{x} emitting facility, whichever is later, for a source subject to § 129.96(b).

(c) Each NO\textsubscript{x} air contamination source included in the application for an operating permit modification or a plan approval, if otherwise required, for averaging NO\textsubscript{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 NOx RACT emission limitation in § 129.97.

(d) The application for the operating permit modification or the plan approval, if otherwise required, 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 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.

(e) The owner or operator shall calculate the alternative facility-wide or system-wide NOx 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 NOx emissions averaging plan:

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

Where:

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

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

\[n = \text{The number of air contamination sources included in the NOx emissions averaging plan.}\]

(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 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.

(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 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).

(h) An air contamination source or facility included in the facility-wide or system-wide NOx emissions averaging plan submitted in accordance with subsections (b)—(g) may be included in only one facility-wide or system-wide NOx 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 NOx emissions averaging plan.

(j) The owner or operator of an air contamination source or facility included in the facility-wide or system-wide NOx 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 NOx 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 NOx RACT emission limitations may not substitute these emission reductions for the emission reductions required by the facility-wide or system-wide NOx 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 NOx RACT emission limitation in § 129.97 that is not included in a facility-wide or system-wide NOx emissions averaging plan submitted under subsection (b) shall operate the source in compliance with the applicable NOx RACT emission limitation in § 129.97.

(m) The owner and operator of the air contamination sources included in a facility-wide or system-wide NOx emissions averaging plan submitted under subsection (b) shall be liable for a violation of an applicable NOx RACT emission limitation at each source included in the NOx 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 NOx 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 NOx air contamination source with a potential emission rate equal to or greater than 5.0 tons of NOx per year that is not subject to § 129.97 or §§ 129.201—129.205 (relating to additional NOx requirements) located at a major NOx emitting facility subject to § 129.96 shall propose a NOx 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 NOx 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 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 NOx emitting facility or major VOC emitting facility.

3. Include in the RACT proposal the proposed alternative NOx 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 NOx 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 NOx 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
(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 NOx 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 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 NOx 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 NOx 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 NOx 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 NOx 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 NOx 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 NOx 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 NOx 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.]
IN RE: Duquesne Light Company  
Cheswick Power Station  
C\O 411 Seventh Avenue  
Box 1930  
Pittsburgh, PA 15230

) PLAN APPROVAL ORDER  
) AND AGREEMENT No. 217  
) UPON CONSENT

AND NOW, this 8th day of March, 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 power generating facilities at Porter Street, Springdale, Allegheny County, PA 15219 (hereafter referred to as "the facility"), is a major stationary source of oxides of nitrogen emissions (hereafter referred to as "NOx") 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 Sources of Nitrogen Oxides and 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 NOx emissions from the facility; and

WHEREAS, the Bureau and DLCo 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 the facility unless the low NOx concentric firing system II, commonly known as "LNCFS II," is properly maintained and operated.

1.2. At no time shall DLC operate the facility unless NOx continuous emission monitoring equipment (hereafter referred to as "CEMs") is properly maintained and operated as specified in Section 2108.03 of Article XXI.
1.3. At no time shall DLCo allow emissions from the subject facility to exceed the following emission limitations:

<table>
<thead>
<tr>
<th>Short Term</th>
<th>Annual Average</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>LbsNO₂/MMBTU</td>
<td>Lbs NO₂/MMBTU</td>
<td>Tons NO₂/year</td>
</tr>
<tr>
<td>0.5548</td>
<td>0.45</td>
<td>10,840</td>
</tr>
</tbody>
</table>

DLCo shall determine compliance:

i. with the 0.5548 Lbs/MMBTU emission limitation by using CEM data averaged over a twenty-four (24) hour period; and

ii. with the 0.45 Lbs/MMBTU emission limitation referenced above in this paragraph by using CEM data averaged over a one (1) year period; and

iii. with the annual emissions limitation referenced above in this paragraph by using annual CEM data.

1.4. 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 both 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. All recording and reporting required by Section 2108.03 of Article XXI, and entitled "Continuous Emission Monitoring."

1.5. 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.

1.6. DLCo shall at all times properly operate and maintain all process and emission control equipment according to good engineering practice.
II. AGREEMENT

The foregoing 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. Environmental Protection Agency as a revision to the Commonwealth of Pennsylvania's State Implementation Plan (hereafter referred to as "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. DLC hereby consents to the foregoing Order and hereby knowingly waives all rights to appeal said Order, and the undersigned represents that he is authorized to consent to the Order and to enter into this Agreement on behalf of DLC.

2.5. DLC acknowledges and understands that the purpose of this Agreement is to establish RACT for the control of emissions of NOx from this facility. DLC further acknowledges and understands the possibility that the U. S. EPA may decide to not accept the Agreement portion of the Enforcement Order and Agreement by Consent as a revision to the Commonwealth of Pennsylvania's 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: (signature)

Print or type Name: Thomas D. Jones
General Manager
Title: Fossil Generation Unit
Date: February 29, 1996

ALLEGHENY COUNTY HEALTH DEPARTMENT

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

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

3/8/96
AIR QUALITY PROGRAM
301 39th Street, Bldg. #7
Pittsburgh, PA 15201-1811

Minor Source/Minor Modification
INSTALLATION PERMIT

Issued To: GenOn Cheswick Generating Station  ACHD Permit#: 0054-1005
Pittsburgh & Porter Streets  Date of Issuance: February 28, 2020
Springdale, PA 15144

Expiration Date:  (See Section III.12)

Issued By:  Prepared By: JoAnn Truchan, P.E.  David D. Good
Section Chief, Engineering  Air Quality Engineer
[This page left intentionally blank]
TABLE OF CONTENTS

I. CONTACT INFORMATION ........................................................................................................ 4
II. FACILITY DESCRIPTION .................................................................................................... 5
III. GENERAL CONDITIONS ................................................................................................... 6
IV. SITE LEVEL TERMS AND CONDITIONS ........................................................................ 11
V. EMISSION UNIT LEVEL TERMS AND CONDITIONS .................................................. 25
   A. MAIN BOILER NO. 1, STACK NO. 001A ......................................................................... 25
   B. AUXILIARY BOILER, STACK NO. 2 ............................................................................... 30
VI. ALTERNATIVE OPERATING SCENARIOS ................................................................. 33
VII. EMISSIONS LIMITATIONS SUMMARY .......................................................................... 34

AMENDMENTS:

<table>
<thead>
<tr>
<th>DATE</th>
<th>SECTION(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I. CONTACT INFORMATION

Facility Location: Cheswick Generating Station  
Pittsburgh & Porter Street  
Springdale, PA 15144

Permittee/Owner: GenOn Power Midwest LP  
Cheswick Generating Station  
P.O. Box 65  
Cheswick, PA 15024

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  
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

The Cheswick Generating Station is an electric generating facility located on Pittsburgh and Porter Streets in Springdale, PA. The plant is composed of one main boiler exhausting to one stack, which fires coal (including synfuel) as the primary fuel and natural gas as an auxiliary fuel for startup, shutdown, and during upset conditions. Pollution control equipment for the main boiler includes low NOx burners, electrostatic precipitation with flue gas conditioning, selective catalytic reduction, and flue gas desulfurization (FGD). The plant also has a No. 2 oil-fired auxiliary boiler which exhausts to a separate stack. The facility is a major source of sulfur dioxide (SO2), nitrogen oxides (NOx), particulate matter (PM), particulate matter < 10 microns in diameter (PM10), particulate matter < 2.5 microns in diameter (PM2.5), carbon monoxide emissions (CO), hazardous air pollutants (HAPs), and volatile organic compounds (VOCs), 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>
<thead>
<tr>
<th>I.D.</th>
<th>SOURCE DESCRIPTION</th>
<th>CONTROL DEVICE(S)</th>
<th>MAXIMUM CAPACITY</th>
<th>FUEL/RAW MATERIAL</th>
<th>STACK I.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-001</td>
<td>Main Boiler No.1, Tangentially Fired</td>
<td>Low NOx Burners; ESP with Flue Gas Conditioning; SCR</td>
<td>6,000 MMBtu/Hr Maximum; 5,500 MMBtu/Hr Rated</td>
<td>Bituminous and Sub-Bituminous Coal; Synfuel; Natural Gas (Auxiliary Fuel)</td>
<td>S-001</td>
</tr>
<tr>
<td>S-002</td>
<td>Auxiliary Boiler, No. 2 Fuel Oil Stoker Fired</td>
<td>None</td>
<td>160 MMBtu/Hr</td>
<td>No. 2 Fuel Oil</td>
<td>S-002</td>
</tr>
</tbody>
</table>
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.


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)**


22. **NOₓ 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 NOₓ 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 NOₓ 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\textsubscript{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\textsubscript{X} air contamination source specified in this subsection, which is located at a major NO\textsubscript{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\textsubscript{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\textsubscript{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\textsubscript{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\textsubscript{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\textsubscript{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\textsubscript{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\textsubscript{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:

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

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.
- $H_i =$ 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).

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 NOX and VOCs) to control, reduce or minimize NOX 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 NOX requirements; emissions of NOX from stationary internal combustion engines; and emissions of NOX 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 NOX emissions averaging plan general requirements.

1) The owner or operator of a major NOX-emitting facility subject to 25 Pa. Code §129.96 (relating to applicability) that includes at least one air contamination source subject to a NOX 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 NOX RACT emission limitation may elect to meet the applicable NOX RACT emission limitation in 25 Pa. Code §129.97 by averaging NOX
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 EMISSION UNITS INCLUDED IN THE SYSTEM-WIDE NOX 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 NOX 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:
   b) October 24, 2016, or 6 months after the date that the source meets the definition of a major NOx emitting facility, whichever is later, for a source subject to §129.96(b).

3) Each NOX air contamination source included in the application for an operating permit modification or a plan approval, if otherwise required, for averaging NOX 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 NOX 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 NOX 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 NOX emissions emitted by the air contamination 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 25 Pa. Code §129.97 on a source-specific basis.

5) The owner or operator shall calculate the alternative facility-wide or system-wide NOX 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 NOX emissions averaging plan:

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

Where:
- \( n \) = The number of air contamination sources included in the NOX emissions averaging plan
- \( E_{i\text{actual}} \) = The actual NOX mass emissions, including emissions during startups, 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 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 NOX 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 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.

7) The owner or operator of an air contamination source or facility included in the facility-wide or system-wide NOX 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 NOX 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 NOX RACT emission limitations may not substitute those emission reductions for the emission reductions required by the facility-wide or system-wide NOX 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 NOX RACT emission limitation in 25 Pa. Code §129.97 that is not included in a facility-wide or system-wide NOX emissions averaging plan submitted under part §129.98(b), shall operate the source in compliance with the applicable NOX 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 NOX emissions averaging plan submitted under part §129.98(b) shall be liable for a violation of an applicable NOX RACT emission limitation at each source included in the NOX emissions averaging plan.

11) Calculation of the Allowable NOX Emissions (E allowable)

a) For the GenOn Cheswick Main Boiler No 1, the following equation (Equation 3) will be used to calculate Daily E allowableM (in lbs):

\[
\text{Daily } E_{\text{allowableM}} = \sum_{i=1}^{n} [Z(C_1) + X(C_2) + G(C_3)] \quad \{\text{Equation 3}\}
\]

Where:
Daily E allowableM = The daily allowable NOX 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 NOX/mmBTU,
C_1 = The hourly heat input for coal-firing operations when SCR inlet T >= 600°F, expressed in units of mmBTU,
X = 0.35 lb NOX/mmBTU,
C_2 = The hourly heat input for coal-firing operations when SCR inlet T < 600°F, expressed in units of mmBTU,
G = 0.10 lb NOX/mmBTU,
C_3 = The hourly heat input for gas-firing operations, expressed in units of mmBTU,
The hourly heat inputs (C_1, C_2, and C_3) 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 EiallowableA (in lbs):

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

Where:
Daily E_{allowableA} = The daily allowable NO\textsubscript{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\textsubscript{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_{allowableB1A} (in lbs):

\[
Daily E_{allowableB1A} = [(W)(FO)] \{\text{Equation 5}\}
\]

Where:
Daily E_{allowableB1A} = The daily allowable NO\textsubscript{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\textsubscript{X}/mmBTU (equivalent to 96 ppmvd NO\textsubscript{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_{allowableB2A,2B,3} (in lbs) for each turbine:

\[
Daily E_{allowableB2A,2B,3} = [\sum n_i = 1(U)(CG_1) + (V)(G_2)] \{\text{Equation 6}\}
\]

Where:
Daily E_{allowableB2A,2B,3} = The daily allowable NO\textsubscript{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\textsubscript{X}/mmBTU (Equivalent to 42 ppmvd NO\textsubscript{X} @ 15% oxygen),
G_1 = The hourly heat input for operation when combustion turbine output is <60% load, expressed in units of mmBTU,
V = 0.013 lb NO\textsubscript{X}/mmBTU (Equivalent to 3.5 ppmvd NO\textsubscript{X} @ 15% oxygen),
G_2 = Hourly heat input for operation when combustion turbine output is > 60% load, expressed in units of mmBTU,
The hourly heat inputs (G_1 & G_2) 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 $E_i^{allowable}$:

$$Daily E_i^{allowable} = Daily E_i^{allowableM} + Daily E_i^{allowableA} + Daily E_i^{allowableB1A} + Daily E_i^{allowableB12} + Daily E_i^{allowableB12A} + Daily E_i^{allowableB13} \quad \{\text{Equation 7}\}$$

f) The 30-day rolling system-wide allowable NOX mass emissions ($E_i^{allowable}$) are calculated by summing the allowable NOX 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 $E_i^{allowable}$) 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 $E_i^{actual}$ to $E_i^{allowable}$

a) Beginning on January 1, 2017, the permittee shall demonstrate compliance with the alternative system-wide NOX RACT emissions limitation using a 30-day rolling average by comparing $E_i^{actual}$ to $E_i^{allowable}$ for each system operating day.

b) For each 30-day rolling period in which $E_i^{actual}$ exceeds $E_i^{allowable}$, the permittee shall be liable for a violation of the applicable NOX RACT emission limitation at each of the units included in the system-wide NOX 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 NOX 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 NOX 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 NOX 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 NOX 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 NOX emissions limit shall be included in the quarterly RACT system-wide NOX emissions averaging report.

6) The quarterly RACT system-wide NOX 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 NOX 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. Main Boiler No. 1, Stack No. 001a

Process Description: Tangentially-Fired Boiler  
Facility ID: Main Boiler No.1  
Max. Design Rate: 6,000 MMBtu/hr (maximum hourly rating); 5,500 MMBtu/hr (maximum continuous rating) coal and synfuel; 1,028 MMBtu/hr natural gas  
Fuel(s): Coal (primary) or synfuel; Natural gas (auxiliary)  
Control Device: Low NOx burners, electrostatic precipitator (ESP) with flue gas conditioning, selective catalytic reduction (SCR) & flue gas desulfurization (FGD)  
CEM: NOX, SO2, CO2 and opacity (COM)

1. Restrictions:

a. The permittee shall continue to meet the conditions of Operating Permit No. 0054, in addition to the revisions in this permit. [§2102.04.b.5]

b. Nitrogen oxide (NOX) emissions from the Main Boiler shall not exceed the following: (25 Pa. Code §129.97(g)(vi)(B), §129.97(g)(viii), 25 Pa. Code §129.99)

7) 0.12 lb/MMBtu, when the inlet temperature to the SCR is equal to or greater than 600 degrees Fahrenheit;  
8) 0.35 lb/MMBtu, when the inlet temperature to the SCR is less than 600 degrees Fahrenheit;  
and

9) 5,621 tons/year.

c. Volatile organic compound (VOC) emissions from the Main Boiler shall not exceed 0.0034 lb/MMBtu. (25 Pa. Code §129.99)

d. Emissions from the Main Boiler Stack-001a shall not exceed the following: [25 Pa. Code §129.97(g)(vi)(B), §129.97(g)(viii), 25 Pa. Code §129.99]

<table>
<thead>
<tr>
<th>POLLUTANT</th>
<th>HOURLY EMISSION LIMIT (lb/hr)</th>
<th>ANNUAL EMISSION LIMIT (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen Oxides</td>
<td>720**(2)**</td>
<td>5,621</td>
</tr>
<tr>
<td></td>
<td>1400**(3)**</td>
<td></td>
</tr>
<tr>
<td>Volatile Organic Compounds</td>
<td>20.4</td>
<td>82.0</td>
</tr>
</tbody>
</table>

1) A year is defined as any consecutive 12-month period.  
2) SCR inlet temperature ≥600°F (30-day rolling average)  
3) SCR inlet temperature <600°F (30-day rolling average)

f. If the NO\textsubscript{X} Averaging Plan described in Condition IV.22 above is terminated by ownership transfer or permit application to terminate the plan, the NO\textsubscript{X} emission limitations of V.A.1.b and V.A.1.d above shall be demonstrated for Cheswick Main Boiler No. 1 independent of the other units in the averaging plan (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.125 Pa. Code §129.100)

3. **Monitoring Requirements:**


      1) catalytic bed inlet gas temperature,
      2) ammonia solution injection rate, and
      3) ammonia solution concentration (receipt of certification from vendor).

   b. The permittee shall operate and maintain the SCR equipment and monitoring instrumentation in accordance with the manufacturer’s specifications and good air pollution control practice. (§2105.03, §2102.04.b.6, IP No. 0054-I002, Condition V.A.3.b, issued June 13, 2001, 25 Pa. Code §129.100)

   c. The permittee shall certify, operate, and maintain continuous emission monitors in accordance with 40 CFR Part 75 or approved alternative for SO\textsubscript{2}, volumetric gas flowrate, NO\textsubscript{x}, and CO\textsubscript{2} emissions from the new main boiler stack. (40 CFR 75, Article XXI §2103.22.j, §2103.50, IP No. 0054-I004b Condition V.A.3.b, 25 Pa. Code §129.100)

      1) Continuous monitoring systems shall comply with the Installation and Performance Specifications of appendix A of Part 75. (40 CFR 75.10(b))

      2) The permittee shall determine and record the heat input for every hour or part of an hour of any fuel that is combusted per Appendix F of Part 75. (40 CFR 75.10(b))

      3) Continuous monitoring systems shall meet the minimum data availability requirements in 40 CFR part 75. (40 CFR 75)

      4) The NO\textsubscript{x} and SO\textsubscript{2} CEMs shall record emissions in terms of lb/MMBtu and lb/hr for each pollutant. (§2108.03.b.4, §2102.04.b.6)

4. **Record Keeping Requirements:**

   a. The permittee shall maintain all appropriate records to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 217. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 217 are met. The permittee 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 §2105.06 and RACT Order No. 217. Such information shall include, but not be limited to, the following minimum information which shall be submitted to the Department as a written report at three month intervals: (§2108.03.d, §2105.06, RACT Order No. 217, Condition 1.4, 25 Pa. Code §129.100)

1) All recording and reporting required by Section 2108.03 of Article XXI, and entitled “Continuous Emission Monitoring.”
2) An identification of each instance during the reporting period during which emissions exceeded the applicable emission limitations rates in condition V.A.1.b above and an identification of the reasons, if known, for such exceedance. The averaging period used for making such identification shall correspond to the averaging period specified in condition V.A.1.b above.
3) An identification of each period during which the continuous emission monitoring system was inoperative, except for zero and span drift checks, the reasons therefore, and the nature of repairs or adjustments performed or to be performed.
4) An identification of calibrations, zero and span drift checks, and other quality assurance procedures.

b. The permittee shall keep and maintain the following data for Main Boiler No. 1: (§2102.04.b.6, §2103.12.j, IP No. 0054-I004b Condition V.A.4.a, 25 Pa. Code §129.100)

1) Type and amount of fuel used (tons of coal/day, MMscf of natural gas/day);
2) Amount of synfuel used each month (tons);
3) Records of the type of synfuel binder used each month and the material safety data sheets for each binder used;
4) Steam load (lbs/hr, lbs/day; average daily steam load for each month);
5) Total operating hours, (hours/day, monthly and 12-month);
6) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment;
7) Stack test protocols and reports;
8) Data specified to be monitored in Condition V.A.3 above; and

c. The permittee shall maintain records of all air pollution control system performance evaluations and all records of calibration checks, adjustments, and maintenance performed on all equipment which is subject to this permit. (IP No.0054-I002, Condition V.A.4.b, issued June 13, 2001, §2103.05, 25 Pa. Code §129.100)

d. The permittee shall maintain a copy of the manufacturer’s specifications for the SCR air pollution control equipment on-site. (IP No.0054-I002, Condition V.A.4.c, issued June 13, 2001, 25 Pa. Code §129.100)

e. The permittee shall keep a record of the date, time, and cause of the malfunction of all air pollution control systems, and the action taken to correct the malfunction. (IP No.0054-I002, Condition V.A.4.d, issued June 13, 2001, §2108.01.b & §2108.01.c, 25 Pa. Code §129.100)

f. The permittee shall record at a minimum the following SCR control system information: (IP No. 0054-I002, Condition V.A.4.e, issued June 13, 2001, 25 Pa. Code §129.100)
1. Catalytic bed inlet temperature, ammonia solution injection rate, and ammonia solution concentration (once each shift).
2. All instances or episodes when the catalyst was bypassed due to boiler upset conditions and low boiler load conditions when the boiler exhaust temperature is outside of the operating range of the SCR catalyst (each occurrence).
3. All instances when the catalyst is bypassed (each occurrence).

g. 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, IP No.0054-I002, Condition V.A.4.a, issued June 13, 2001, §2108.01.b & §2108.01.c, 25 Pa. Code §129.100)

h. The permittee shall prepare and maintain on-site a QA/QC Plan as described in 40 CFR Part 75 Appendix B. (40 CFR §75.50(a)(4)) The permittee shall also maintain a file of all measurements, data, reports, and other required information for at least five years. (40 CFR §75.54, 25 Pa. Code §129.100)

i. All records of all required monitoring data and support information shall be retained by the facility for at least five (5) years. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. 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)

j. 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 non-compliance information required to be recorded by V.A.4.g above 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, 25 Pa. Code §129.100)

b. The permittee shall submit the results of the continuous nitrogen oxides monitoring systems on a regular schedule and in a format acceptable to the Department and in compliance with the USEPA Clean Air Markets Division Part 75 requirements. (§2108.03.b.3, 25 Pa. Code §129.100)

c. Within 30 days of the end of each calendar quarter, the following shall be reported to the Department: (Permit No. 1065009-003-00100, issued December 8, 1981; IP No. 0054-I002, Condition V.A.5.a, issued June 13, 2001; §2103.12.k.1, IP No. 0054-I004b Condition V.A.5.c, 25 Pa. Code §129.100)

   1) Amount of coal fired each month (tons);
   2) Daily average and rolling 30-day average NOx emissions and cumulative 12-month total NOx emissions (lb/MMBtu and lb/hr; tons/year); and
   3) Cumulative 12-month synfuel usage for each month during the compliance period.

d. The permittee shall provide the Department written notice 21 days prior to dates of periodic relative accuracy testing audits per 40 CFR 75.61(a)(5). (40 CFR §75.21(d), Article XXI §2103.22.j, §2103.50, 25 Pa. Code §129.100)
c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k]

6. Work Practice Standard:

a. The permittee shall not, at any time, operate Main Boiler No. 1 unless the subject boiler, including the low NOx concentric firing system II, is properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 217, Conditions 1.1 and 1.6, issued March 8, 1996; §2105.06; §2105.03, 25 Pa. Code §129.99)

b. All air pollution control equipment required by this Article or any permit or order under this Article, and all equivalent compliance techniques which have been approved by the Department pursuant to this Article, shall be properly installed, calibrated maintained, and operated consistent with good air pollution control practice. (§2105.03, IP No. 0054-I004b Condition V.A.6.a, 25 Pa. Code §129.99)

c. The permittee shall take corrective action if an out of control period occurs to a monitoring system (e.g., continuous emission monitor). (40 CFR §75.24, Article XXI §2103.22.j, §2103.50, IP No. 0054-I004b Condition V.A.6.b, 25 Pa. Code §129.100)

d. The failure to install and operate any continuous emissions monitoring system required by §2108.03 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 (§2109.02. §2108.03.f, IP No. 0054-I004b Condition V.A.6.c, 25 Pa. Code §129.100)
B. **Auxiliary Boiler, Stack No. 2**

**Process Description:** Oil-fired external combustion boiler  
**Facility ID:** Auxiliary Boiler  
**Max. Design Rate:** 160 MMBtu/hr  
**Raw Materials:** No. 2 Fuel Oil, 0.05% (wt.) sulfur content  
**Control Device:** None

1. **Restrictions:**

   a. The permittee shall continue to meet the conditions of Operating Permit No. 0054, in addition to the revisions in this permit. \([§2102.04.b.5]\)

   b. The permittee shall limit the heat input rate to the Auxiliary Boiler to less than 140,160 MMBtu per twelve (12) consecutive month period (10 percent annual capacity factor). \((§2103.12.a.2.B, §2105.06.b, §63.7575, 25 Pa. Code §129.99)\)


   d. All fuel oil purchased by the permittee beginning July 1, 2016 for the Auxiliary Boiler shall meet ASTM specifications for No.2 fuel oil and have a maximum sulfur content at or less than 0.05% by weight at all times. Commercial fuel oil that was stored in this Commonwealth by the ultimate consumer prior to July 1, 2016, which met the applicable maximum allowable sulfur content at the time it was stored, may be used by the ultimate consumer in this Commonwealth on and after July 1, 2016. \((§2103.12.h.1, Permit No. 106509-003-00600, issued May 2, 1995; PA Code 25 123.22(d)(2)(ii), PA Code 25 123.22(d)(2)(iii), 25 Pa. Code §129.100)\)

   e. Emissions from The Auxiliary Boiler shall not exceed the following at any time: \((25 Pa. Code §129.97(g)(1)(ii), 25 Pa. Code §129.99)\)

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

<table>
<thead>
<tr>
<th>POLLUTANT</th>
<th>HOURLY EMISSION LIMIT (lb/hr)</th>
<th>ANNUAL EMISSION LIMIT (tons/year)¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen Oxides</td>
<td>19.2</td>
<td>8.4</td>
</tr>
<tr>
<td>Volatile Organic Compounds</td>
<td>0.3</td>
<td>0.13</td>
</tr>
</tbody>
</table>

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


   g. 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 NO\(_X\) emission limitations of V.B.1.c and V.B.1.e above shall be demonstrated for Cheswick Auxiliary Boiler independent of the other units in the averaging plan. \((25 Pa. Code §129.99; 25 Pa. Code §129.100)\)
2. **Testing Requirements:**

   a. The permittee shall perform nitrogen oxides emissions testing on the Auxiliary Boiler at least once every five years in order to demonstrate compliance with the emission limitations of this permit. Such testing shall be conducted in accordance with U.S. EPA test method 7E or an alternative method approved by the Department and Article XXI §2108.02. (§2103.12.h.1, §2108.02.b, §2108.02.e., 25 Pa. Code §129.100)

   b. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. (§2103.12.h.1, 25 Pa. Code §129.100)

3. **Monitoring Requirements:**

   The permittee shall operate and maintain a fuel flow meter to monitor the amount of fuel oil combusted in the Auxiliary Boiler. (§2103.12.i, 25 Pa. Code §129.100)

4. **Record Keeping Requirements:**

   a. The permittee shall maintain all appropriate records to demonstrate compliance with the requirements of both Section 2105.06 Article XXI, and conditions V.B.1.b and V.B.6.b below. Such records shall provide sufficient data to clearly demonstrate that all requirements of Section 2105.06 of Article XXI, and conditions V.B.1.b and V.B.6.b below, are being met. (§2105.06.g, 25 Pa. Code §129.100)

   b. The permittee shall keep and maintain the following data for the Auxiliary Boiler: (§2103.12.h.1, §63.7525(k), 25 Pa. Code §129.100)

      1) Amount of fuel oil used (daily and 12-month, gallons);
      2) Records of fuel oil supplier’s certification of sulfur content, and fuel oil heating value (each shipment received);
      3) Total operating hours, (hours/day, monthly and 12-month);
      4) Total heat input rate (12-month, MMBtu)
      5) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment.
      6) Stack test protocols and reports.
      7) Records of the annual adjustment required by V.B.6.b below.

   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 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 on a semi-annual basis. The reports shall contain all required information for the time period of the report: (§2103.12.k.1, 25 Pa. Code §129.100)

   b. Monthly and 12-month data required to be recorded by condition V.B.4.b above (25 Pa. Code §129.100);
      1) A statement from the permittee that the record of fuel supplier certifications required by condition V.B.4.b above represents all the fuel oil received during the reporting period; and
      2) Non-compliance information required to be recorded by V.B.4.c above.

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

6. Work Practice Standard:
   a. The permittee shall not, at any time, operate the Auxiliary Boiler unless the subject boiler is properly operated and maintained according to good engineering and air pollution control practices. (§2105.03, 25 Pa. Code §129.99)

   b. The permittee shall conduct a tune-up of the Auxiliary Boiler at least once every 5 years from the date of the last tune-up. (§63.7500(a)(1): Subpart 5D Table 3, Item #1, 25 Pa. Code §129.99)
VI. ALTERNATIVE OPERATING SCENARIOS

No alternative operating scenarios exist for this operation.
VII. EMISSIONS LIMITATIONS SUMMARY

The following table summarizes the estimated annual maximum potential emissions (which may not include fugitive) from the GenOn Cheswick Main Boiler No. 1 and the Auxiliary Boiler. These annual (consecutive 12 month) potential emission estimates assume that all sources operate continuously.

<table>
<thead>
<tr>
<th>POLLUTANT</th>
<th>ANNUAL EMISSION LIMIT (tons/year)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen Oxides (NO\textsubscript{X})</td>
<td>5,629</td>
</tr>
<tr>
<td>Volatile Organic Compounds (VOC)</td>
<td>82.1</td>
</tr>
</tbody>
</table>

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