



Connecticut Department of  
**ENERGY &  
ENVIRONMENTAL  
PROTECTION**

**BUREAU OF AIR MANAGEMENT  
TITLE V OPERATING PERMIT**

Issued pursuant to Title 22a of the Connecticut General Statutes (CGS) and Section 22a-174-33 of the Regulations of Connecticut State Agencies (RCSA) and pursuant to the Code of Federal Regulations (CFR), Title 40, Part 70.

<b>Title V Permit Number</b>	<b>104-0106-TV</b>
<b>Client/Sequence/Town/Premises Numbers</b>	<b>138/13/104/24</b>
<b>Date Issued</b>	<b>November 24, 2014</b>
<b>Expiration Date</b>	<b>November 24, 2019</b>

**Corporation:**

Middletown Power LLC

**Premises Location:**

1866 River Road, Middletown, Connecticut 06457

**Name of Responsible Official and Title:**

Jeffrey Araujo, Plant Manager

All the following attached pages, 2 through 57, are hereby incorporated by reference into this Title V permit.

/s/ Anne Gobin for  
Robert J. Klee  
Commissioner

November 24, 2014  
Date

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## **Title V Operating Permit**

**All conditions in Sections III, IV, and VI of this Title V permit are enforceable by both the Administrator and the commissioner unless otherwise specified. Applicable requirements and compliance demonstration are set forth in Section III of this Title V permit. The Administrator or any citizen of the United States may bring an action to enforce all permit terms or conditions or requirements contained in Sections III, IV, and VI of this Title V permit in accordance with the Clean Air Act, as amended.**

## LIST OF ABBREVIATIONS/ACRONYMS

<i>Abbreviation/Acronym</i>	<i>Description</i>
acfm	Actual cubic feet per minute
CEM	Continuous Emission Monitor
CFR	Code of Federal Regulations
CO	Carbon Monoxide
C.O.	Consent Order
CP/OP	Construction Permit/Operating Permit
DERC	Discrete Emission Reduction Credits
DEEP	Department of Energy & Environmental Protection
dscf	Dry standard cubic feet
EPA	Environmental Protection Agency
ERC	Emission Reduction Credit
EU	Emission Unit
FLER	Full load emission rate
GEU	Grouped Emission Unit
gph	Gallons per hour
gpm	Gallons per minute
HAP	Hazardous Air Pollutant
HLV	Hazard Limiting Value
MACT	Maximum Achievable Control Technology
MASC	Maximum Allowable Stack Concentration
MP	Middletown Power
MSDS	Material Safety Data Sheet
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOx	Nitrogen Oxides
NSPS	New Source Performance Standards
NSR	New Source Review
PM	Particulate Matter
ppmv	Parts per million, volumetric basis
PTE	Potential to Emit
RACT	Reasonably Available Control Technology
RCSA	Regulations of Connecticut State Agencies
RMP	Risk Management Plan
SIC	Source Identification Code
SIP	State Implementation Plan
TOC	Total Organic Carbon
tph	Tons per hour
tpy	Tons per year
TSP	Total Suspended Particulate
VOC	Volatile Organic Compound

## **Section I: Premises Information/Description**

### **A. PREMISES INFORMATION**

Nature of Business: Electric Power Generation  
Primary SIC: 4911  
Other SIC: none

Facility Mailing Address: Middletown Power, LLC, P.O. Box 1001, 1866 River Road, Middletown, CT 06457  
Telephone Number: (860) 638-3031

### **B. PREMISES DESCRIPTION**

Middletown Station is located on River Road in Middletown, Connecticut. The station produces electricity for sale. The station consists of three steam electric generating boilers (Units 2, 3 and 4) and five combustion turbines (Units 10 and 12-15) for the production of electricity. Additional emissions units at the station include one auxiliary steam boiler and two glycol burners used to heat the natural gas. The total electrical output from the station is 953 megawatts (MW).

Unit 2 (EU-1) is a traditionally fired Riley boiler rated at 1,295 MMBtu/hr and capable of producing 117 MW. The unit is capable of burning No.6 oil, No.2 oil (for ignition only) and natural gas on an interruptible basis. The unit is covered under air registration number R104-0098. This unit is subject to Consent Order 1888 concerning opacity requirements and Trading Agreement and Order 8335 for compliance with RCSA 22a-174-22(e)(3).

Unit 3 (EU-2) is a B&W cyclone boiler rated at 2,370 MMBtu/hr and capable of producing 236 MW. The unit is capable of burning No.6 oil, No.2 oil (for ignition only) and natural gas on an interruptible basis. The unit is covered under air registration number R104-0100. The unit is subject to the requirements of Trading Agreement and Order 8335 for compliance with RCSA 22a-174-22(e)(3).

Unit 4 (EU-3) is a tangentially fired Combustion Engineering boiler rated at 4,684 MMBtu/hr and capable of producing 400 MW. The unit is capable of burning No.6 oil and No.2 oil for ignition only. The unit is covered under air permit number 104-0003. This unit is subject to Consent Order 1888 concerning opacity requirements and Trading Agreement and Order 8335 for compliance with RCSA 22a-174-22(e)(3).

Units 2, 3 and 4 are Phase II Acid Rain Sources and their CEM system has been certified in accordance with 40 CFR 75.

Units 2, 3 and 4 are considered Electric Generating Units as defined by the Mercury and Air Toxics Standards (MATS), 40 CFR Part 63 Subpart UUUUU, for power plants.

Unit 4A (EU-4) is an auxiliary steam boiler which provides steam for boiler warm-up and plant heating. This unit is capable of firing No. 6 oil and natural gas on an interruptible basis. This unit is located within the main power plant building and shares a stack with EMU3. The unit is covered under air permit number 104-0002. EU-4 is subject to 40 CFR Part 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. The compliance date for Subpart DDDDD is January 31, 2016.

## **Section I: Premises Information/Description**

### **B. PREMISES DESCRIPTION, continued**

Unit 10 (EU-5) is a 20 MW Pratt & Whitney FT4A-8 combustion turbine. It is located east of the main power plant building. This unit is subject to Trading Agreement and Order 8334 which discusses NOx RACT compliance and NOx trading ERCs for peaking units. The registration for this unit was modified on May 29, 2013 to restrict sulfur content in the fuel to 0.05%, by weight (500 ppm).

Units 12-15 (EU-8 through EU-11) are each 50 MW General Electric LM6000 dual fuel fired combustion turbines. They are located east of the main power plant building each with its own stack. These units utilize water injection, selective catalytic reduction (SCR) and oxidation catalyst to control NOx, CO and VOC. These units are subject to 40 CFR Part 60 Subpart KKKK, Standards of Performance for Stationary Combustion Turbines. The emission rates for SOx and NOx in the NSR permits are below the limitations outlined in Subpart KKKK. Units 12-15 are Phase II Acid Rain sources and their CEM system is in accordance with 40 CFR 75. Initial compliance testing was completed in June 2011 for Units 12 & 13 and May 2011 for Units 14 & 15.

There are also two Cleaver Brooks gas-fired glycol boilers (EMU6 and EMU7) at Middletown Station. They are used to heat the natural gas supply and are located outside of the main power plant building in a separate shelter. These units are not subject to any unit specific applicable requirements in this permit.

The Middletown Station has been given approval to blend No.6 oil with > 0.5% sulfur. This activity has been determined to be less than 1.0 ton per year of potential emissions and thus is deemed an insignificant activity. However, the approval continues to be in effect given that Middletown Power LLC complies with the terms and conditions listed for fuel blending in Section III 'Premises Applicable Requirements' of this permit.

## Section II: Emissions Units Information

### A. EMISSIONS UNITS DESCRIPTION

Emissions units are set forth in Table II.A. It is not intended to incorporate by reference these NSR Permits, Orders, Registrations, or Regulations into this Title V permit.

<b>TABLE II.A: EMISSIONS UNIT DESCRIPTION</b>			
<b>Emissions Units</b>	<b>Emissions Unit Description</b>	<b>Control Unit Description</b>	<b>Permit, Order, or Registration Number*</b>
EU-1	Riley Dual fuel fired 1,295 MMBtu/hr electric utility steam boiler, Unit 2 Installed 11/01/1958	Electrostatic Precipitator and Boiler excess air control	R104-0098, Consent Order 1888 and Trading Agreement and Order 8335
EU-2	Babcock and Wilcox Dual fuel fired 2,370 MMBtu/hr electric utility steam boiler, Unit 3 Installed 12/01/1964	Electrostatic Precipitator, Boiler excess air control and SNCR	R104-0100, Trading Agreement and Order 8335
EU-3	Combustion Engineering No. 6 oil 4,684 MMBtu/hr electric utility steam boiler, Unit 4 Installed 03/01/1973	Boiler excess air control	Permit 104-0003, Consent Order 1888 and Trading Agreement and Order 8335
EU-4	Babcock and Wilcox Dual fuel fired auxiliary steam boiler, Unit 4A Installed 03/05/1982	Low NOx Burner and Induced Flue Gas Recirculation	Permit 104-0002
EU-5	Pratt & Whitney 20 MW No.2 oil fired Combustion Turbine Model FT4A-8, Unit 10 Installed 08/01/1966	None	R104-0102 and Trading Agreement and Order 8334
EU-6	Cleaver Brooks 7.5 MMBtu/hr Nat. Gas fired glycol boiler Installed 06/27/1997	None	None
EU-7	Cleaver Brooks 2.5 MMBtu/hr Nat. Gas fired glycol boiler Installed 06/27/1997	None	None
EU-8	General Electric 50 MW Combustion Turbine Model LM6000, Unit 12 Installed June 2011	Water Injection, SCR, Oxidation Catalyst	104-0144
EU-9	General Electric 50 MW Combustion Turbine Model LM6000, Unit 13 Installed June 2011	Water Injection, SCR, Oxidation Catalyst	104-0145

## Section II: Emissions Units Information

<b>TABLE II.A: EMISSIONS UNIT DESCRIPTION</b>			
<b>Emissions Units</b>	<b>Emissions Unit Description</b>	<b>Control Unit Description</b>	<b>Permit, Order, or Registration Number*</b>
EU-10	General Electric 50 MW Combustion Turbine Model LM6000, Unit 14 Installed June 2011	Water Injection, SCR, Oxidation Catalyst	104-0146
EU-11	General Electric 50 MW Combustion Turbine Model LM6000, Unit 15 Installed June 2011	Water Injection, SCR, Oxidation Catalyst	104-0147
GEU-1	EU-1 through EU-3	See above	See above
GEU-2	EU-8 through EU-11	See above	See above
<b><i>All applicable requirements for the following units are listed in the premises-wide general requirements portion of this permit:</i></b>			
GEU-3	(2) No. 2 Oil Tanks – Approximately 18,000 gallons; Constructed 1954	None	None
EU-13	Urea Tank – Approximately 25,000 gallons	None	None
EU-14	Aqueous Ammonia Tank – Approximately 25,000 gallons	None	None
GEU-4	(3) Parts Cleaners-Approximately 55 gallons each	None	None
GEU-5	(8) No. 6 Oil Tanks-Approximately 39.11 million gallons total All constructed prior to July 23, 1984 (NSPS applicability date)	None	None
GEU-6	(2) Kerosene Tanks (Jet Fuel) – 25,000 gallons each Constructed 1966	None	None
EU-15	(1) Ultra-Low Sulfur Diesel (ULSD) Tank – 1 million gallons March 2011 Subpart Kb does not apply because ULSD has a true vapor pressure less than 3.5 kilopascals.	None	None

## Section II: Emissions Units Information

### B. OPERATING SCENARIO IDENTIFICATION

The Permittee shall be allowed to operate under the following Standard Operating Scenarios (SOS).

<b>TABLE II.B: OPERATING SCENARIO IDENTIFICATION</b>		
<b>Identification of Operating Scenarios</b>	<b>Emissions Units Associated with the Scenarios</b>	<b>Description of Scenarios</b>
SOS	All Emissions Units	All emissions units associated with SOS shall be operated in accordance with applicable permit or registration terms and conditions and in accordance with best management practices while combusting liquid fuels or natural gas as allowed.

### Section III: Applicable Requirements and Compliance Demonstration

The following contains summaries of applicable regulations and compliance demonstration for each identified Emissions Unit and Operating Scenario, regulated by this Title V permit.

**A. GROUPED EMISSIONS UNIT 1 (GEU-1): Three steam electric generating boilers (EU-1, EU-2, EU-3); Registration Nos. R104-0098, R104-0100; NSR Permit No. 104-0003; Trading Agreement and Order No. 8335; Consent Order No. 1888 (EU-1 and EU-3 only).**

**1. Nitrogen Oxides (NO<sub>x</sub>):**

*a. Limitation or Restriction* [RCSA 22a-174-22(e)(1)]

i. No. 6 Oil

A. Less than or equal to 0.25 lbs/MMBtu. (EU-1 and EU-3)

B. Less than or equal to 0.43 lbs/MMBtu. (EU-2)

ii. No. 2 Oil

A. Less than or equal to 0.20 lbs/MMBtu. (EU-1 and EU-3)

B. Less than or equal to 0.43 lbs/MMBtu. (EU-2)

iii. Natural Gas

A. Less than or equal to 0.20 lbs/MMBtu. (EU-1)

B. Less than or equal to 0.43 lbs/MMBtu. (EU-2)

iv. All Fuels

Less than or equal to 0.15 lbs/MMBtu during the period from October 1 to April 30, inclusive.  
[RCSA 22a-174-22(e)(3)]

*b. Monitoring Requirements*

i. For each fuel combusted the Permittee shall monitor monthly and annual fuel consumption in accordance with Section VI.E of this permit.  
[RCSA §22a-174-33(j)(1)(K)(ii); RCSA 22a-174-22(l)(1)(C)]

ii. The permittee shall operate and maintain a Continuous Emission Monitoring system (CEM) in accordance with 40 CFR Part 75 and associated Appendices for NO<sub>x</sub>.

*c. Record Keeping Requirements* [RCSA 22a-174-22(l)(1); RCSA §22a-174-33(j)(1)(K)(ii)]

In accordance with Section VI.F of this permit, the Permittee shall make and keep the following records:

i. Monthly and annual records of NO<sub>x</sub> emissions;

ii. Procedures for calculating NO<sub>x</sub> emission rates;

### **Section III: Applicable Requirements and Compliance Demonstration**

- iii. Records of all tune-ups, repairs, replacement of parts and other maintenance;
- iv. Copies of all documents submitted to the Commissioner pursuant to this section;
- v. All charts, electronically stored data, and printed records produced by such continuous emissions monitor;
- vi. For each fuel combusted the Permittee shall keep records of monthly and annual fuel consumption. Annual fuel consumption shall be based on any twelve (12) month period and shall be determined by adding the current month's fuel usage to that of the previous eleven (11) months. The Permittee shall make these calculations within thirty (30) days of the end of the previous month.
- vii. Records of the dates, times, and places of all performance or quality assurance testing required by this section, the persons performing the measurements, the testing methods used, the operating conditions at the time of testing, and the results of such testing;
- viii. Records of all performance evaluations, calibration checks and adjustments on continuous emissions monitor; a record of maintenance procedures;
- ix. The permittee shall make and keep records in accordance with 40 CFR Part 75.50-75.59

#### *d. Reporting Requirements*

- i. The Permittee shall submit reports within sixty (60) days of the completion of certification tests conducted under the requirements of RCSA 22a-174-22(k)(3), the owner or operator of such source shall submit a written report of the results of such testing to the Commissioner;  
[RCSA 22a-174-22(1)(3)]
  - ii. The Permittee shall submit to the Commissioner written quarterly reports of excess emissions and CEM malfunctions. Such reports shall be submitted to the Commissioner on or before January 30, April 30, July 30, and October 30 and shall include data for the three calendar month period ending the month before the due date of the report. For each period of excess emissions, such report shall include the date and time of commencement and completion of such period, the magnitude and suspected cause of the excess emissions and all actions taken to correct the excess emissions. For each malfunction of the CEM system, such report shall include the date and time of when the malfunction commenced and ended, and all actions taken to correct the malfunction.  
[RCSA 22a-174-22(1)(4)]
  - iii. The permittee shall submit all required reports in accordance with 40 CFR Part 75.60-75.67
  - iv. The Permittee shall submit all required reports in accordance with Section VI.E of this permit.
- 2. Alternate NO<sub>x</sub> RACT Compliance: Grouped Emissions Unit 1 shall comply with Trading Agreement and Order No. 8335 at all times.**
- a. Limitation or Restriction*
    - i. NO<sub>x</sub> emissions shall not exceed the allowable emissions limits (AEL) in Table 1 of Trading Agreement and Order No. 8335.

### **Section III: Applicable Requirements and Compliance Demonstration**

- ii. The Permittee may use emissions trading, subject to the provisions of Trading Agreement and Order No. 8335 until the earlier of:
  - A. May 31, 2017
  - B. The Commissioner issues written notice to the Permittee stating that the Permittee is no longer allowed to use emissions trading due to the Permittees' violation of any provision of Trading Agreement and Order No. 8335; or
  - C. The Commissioner issues written notice to the Permittee notifying the Permittee that the Commissioner has determined the use of emissions trading as a compliance option has been further restricted, modified or nullified by:
    - 1. the promulgation of an Act, Statute, or Regulations; or
    - 2. the issuance of a judgment or court order.
- iii. While using emissions trading in accordance with Trading Agreement and Order No. 8335, the Permittee shall obtain and use sufficient DERCs in such a manner as to comply with Paragraphs B.6 and B.8 of Trading Agreement and No. Order No. 8335. All DERCs used during the Ozone Season shall have been generated during an Ozone Season.
- iv. Vintage Restriction. For the purposes of Compliance with Section 22a-174-22 of the Regulations and the provisions of Trading Agreement and Order No. Order No. 8335, DERCs shall only remain valid for five (5) calendar years from the year of the generation of such DERCs. DERCs older than five (5) calendar years from their creation are not valid for use for compliance with Section 22a-174-22 of the Regulations and the provisions of Trading Agreement and Order No. Order No. 8335. Ozone Season DERCs generated by a CAIR NOx Ozone Season Unit during 2013 shall only remain valid until May 31, 2017.
- v. Ozone Season Fuel Use Restriction. Notwithstanding the provisions of Paragraph B.2 of Trading Agreement and Order No. Order No. 8335, when operating the emission units during the Ozone Season, the Permittee shall operate those units while firing or co-firing the lowest NOx emitting fuel type or combination of fuel types that the units are authorized to burn in accordance with Departmental permit, registration or applicable regulation,
- vi. Notwithstanding Paragraph B.4 of Trading Agreement and Order No. Order No. 8335, during the Ozone Season, the Permittee may operate the emission units described above on fuels that result in higher emissions of NOx, if either:
  - A. the availability of fuel oil that complies with Paragraph B.4 is inadequate to meet the needs of residential, commercial and industrial users in this state and that such inadequate supply constitutes an emergency; or
  - B. the supply of gaseous fuels to the emission units is interrupted due to inadequate supply or in accordance with an interruptible supply agreement between the Permittee and the gaseous fuel supplier; or
  - C. the unit is operating in order to conduct testing required by any governmental agency or auditing/testing required to demonstrate the ability to satisfy commitments made to ISO NE in the Forward Capacity and/or Locational Forward Reserve Markets.

### **Section III: Applicable Requirements and Compliance Demonstration**

#### *b. Maintenance and Tune-up*

Not more than two (2) years from the date of issuance of Trading Agreement and Order No. 8335, the Permittee shall perform maintenance and inspection of each emission unit. Such maintenance and inspection shall include, but not be limited to, the following:

- i. Inspect the combustion system, and clean or replace any components of the combustion system as necessary, in accordance with manufacturer's specification or current good engineering practice;
- ii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is calibrated and functioning in accordance with the manufacturer's specifications or current good engineering practice;
- iii. Measure the operating parameters of the emission unit used to determine that the emission unit is operating in accordance with manufacturer's specification or current good engineering practice prior to and after any adjustments are made during maintenance, tune-up, or inspection activity.

#### *c. Record Keeping Requirements*

- i. For each unit, the Permittee shall make and keep records of the above required maintenance and tune-ups including, but not limited to the following:
  - A. Demonstration that any maintenance, tune-up, and/or inspection activity performed on the emission units has been performed in accordance with the manufacturer's specifications or current good engineering practice,
  - B. The date and a description of any maintenance, tune-up, and/or inspection activity performed on the emission units,
  - C. The name, title and affiliation of the person conducting any maintenance, tune-up, and/or inspection activity performed on the emission units,
  - D. The operating parameters of the emission unit used to determine that the emission unit is operating in accordance with manufacturer's specification or current good engineering practice prior to and after any adjustments are made during maintenance, tune-up, or inspection activity performed.
- ii. By the close of each calendar day, the Permittee shall record the actual 24-hour average NO<sub>x</sub> emission rate for any emission unit equipped with an approved CEMS, the actual fuel type and the actual quantity of each type of fuel in units of volume per day or MMBtu per day for each fuel used on the preceding day in an emission unit described in Trading Agreement and Order No. 8335,
- iii. On or before the first day of each calendar month, the Permittee shall record the number of DERCs and corresponding serial numbers and vintages for all DERCs in its possession on the first calendar day of that calendar month,
- iv. On or before the first day of each calendar month, the Permittee shall record the number of DERCs and corresponding serial numbers, vintages, purchases/sales dates, and seller/buyer for all DERCs purchased or sold during the preceding calendar month;
- v. On or before the first day of each calendar month, the Permittee shall record the Estimated DERCs Required for that calendar month determined in accordance with Paragraph B.6 of

### **Section III: Applicable Requirements and Compliance Demonstration**

Trading Agreement and Order No. 8335,

- vi. On or before the twentieth calendar day of each calendar month, the Permittee shall record the Actual DERCs Required for the preceding calendar month determined in accordance with Paragraph B.6 of Trading Agreement and Order No. 8335,
- vii. On or before the twentieth calendar day of each calendar month, the Permittee shall record the Actual DERCs Generated for the preceding calendar month determined in accordance with Paragraph B.7 of Trading Agreement and Order No. 8335 and DERCs retired for environmental benefit in accordance with Paragraph B.10 of Trading Agreement and Order No. 8335;
- viii. On or before January 31 of each calendar year, the Permittee shall record the quantity of DERCs deducted in accordance with Paragraph B.11 of Trading Agreement and Order No. 8335 for the preceding month. Such records shall include the serial number and vintage of each DERC deducted from the Permittee's current balance pursuant to Paragraph B.11 of Trading Agreement and Order No. 8335;
- ix. Not more than ninety (90) days after the completion of each Non-Ozone Season, the Permittee shall record the Non-Ozone Season Average NO<sub>x</sub> emission rate for all emissions units in Table 1 of Trading Agreement No. 8335, the quantity of DERCs possessed on the first day of the Non-Ozone Season, the quantity of DERCs deducted in accordance with Paragraph B.12 of Trading Agreement and Order No. 8335, the quantity of DERCs generated during the Non-Ozone Season and retired for environmental benefit in accordance with Paragraph B.9 of Trading Agreement and Order No. 8335, and the quantity of Non-Ozone season DERCs generated during the Non-Ozone season and retired for environmental benefit in accordance with Paragraph B.10 of Trading Agreement and Order No. 8335,
- x. For each month of the Ozone Season, the Permittee shall maintain records attesting to the fact that any DERCs deducted from its balance in accordance with Paragraph B.11 of Trading Agreement and Order No. 8335 satisfy the requirements of Paragraph B.13. Generator certification of this fact shall be sufficient;
- xi. On each day during the Ozone Season that the Permittee operates in accordance with Paragraph B.5 of Trading Agreement and Order No. 8335, the Permittee shall make and keep records of all emission unit operation in accordance with Paragraph B.5 of Trading Agreement and Order No. 8335, including copies of any written correspondence from the Permittees' fuel supplier detailing the duration and circumstances of the inadequate fuel oil supply or interruption of gaseous fuel supply to the emission units.

#### *d. Reporting Requirements*

No later than March 1 of every year after issuance of Trading Agreement and Order No. 8335, the Permittee shall submit to the Commissioner a written report containing copies of all of the records required pursuant to Paragraphs B.14.a – B.14.g, B.14.i and B.14.j of Trading Agreement and Order No. 8335. Not later than July 30 of each calendar year, the Permittee shall submit a written report containing copies of all records required pursuant to Paragraph B.14.h of Trading Agreement and Order No. 8335. The Commissioner may prescribe the forms to be used for the submission of these reports. The Permittee shall submit these reports on such forms, if prescribed by the Commissioner.

### Section III: Applicable Requirements and Compliance Demonstration

#### 3. CAIR NOx Ozone Season Trading Program

Grouped Emissions Unit 1 (GEU1) is comprised of CAIR NOx Ozone season units and therefore subject to RCSA §22a-174-22c. The units shall comply with all applicable requirements stated in RCSA §22a-174-22c and the standard requirements of the CAIR permit application.

#### 4. Particulate Matter Emissions (PM)

##### a. *Limitation or Restriction* [RCSA 22a-174-18(e)]

- i. 0.14 lbs/MMBtu No. 6 Oil
- ii. 0.10 lbs/MMBtu Natural Gas (EU-1 and EU-2)

##### b. *Monitoring Requirements*

For each fuel combusted the Permittee shall monitor monthly and annual fuel consumption in accordance with Section VII.E of this permit. [RCSA §22a-174-33(j)(1)(K)(ii)]

##### c. *Record Keeping Requirements* [RCSA §22a-174-33(j)(1)(K)(ii)]

In accordance with Section VI.F of this permit the permittee shall make and keep the following records:

- i. Monthly and annual fuel consumption for each fuel combusted.
- ii. Calculate and record the monthly and consecutive 12 month TSP emissions in units of tons. The consecutive 12 month emission shall be determined by adding the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for each pollutant using fuel consumption, AP-42, manufacturer's data or other appropriate emissions factor. The permittee shall make these calculations within 30 days of the end of the previous month.

##### d. *Reporting Requirements*

The Permittee shall submit all required reports in accordance with Section VI.E of this permit.

#### 4a. Compliance Assurance Monitoring (CAM) Plan for EU-1 (Unit No. 2) and EU-2 (Unit No. 3) only Hamon Research Cottrell Electrostatic Precipitator (ESP) Monitoring

##### a. *CAM Plan Justification*

EU-1 and EU-2 are subject to CAM since the potential uncontrolled PM emissions exceed major source threshold, are subject to an emissions limitation or standard which is not otherwise exempt under 40 CFR 64.2(b)(1).

An ESP Performance Model using actual stack test data, opacity, and secondary voltage was used to estimate actual PM emission across all modes of operation.

The justification for using secondary kilowatts to the ESP as an indicator is based on the principle that adequate power must be applied to the ESP in order to develop the electrically charged field that collects particulate matter (PM) as the exhaust gas passes through the various electrical fields. As power fluctuates from moderate to high levels the relationship between power and performance becomes relatively "flat".

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Unit No. 2 and No. 3 were last tested for PM on July 20, 2006 and October 3, 2001, respectively, while firing No. 6 fuel oil to demonstrate compliance with the PM limit. Compliance was demonstrated well below the PM limit for both No. 6 fuel oil and natural gas. These tests along with the engineering assessment, conducted as required by 40 CFR §64.4(d)(2), are used to demonstrate that operation of the ESP is not required to meet the PM while firing natural gas. The breakpoint on the PM efficiency curve while firing natural gas on Unit # 2 and Unit #3 therefore is zero because the ESP is not being operated in order to achieve the PM emission limit, but rather to reduce accumulations of debris, including rust from the ESP that would be exhausted through the stack upon the next startup of the boiler.

When firing No. 6 fuel oil the breakpoint below which the ESP becomes inefficient for Unit No. 2 is 28 kW and 19 kW of total secondary power for Unit No. 3. Therefore the total secondary power delivered to the ESP will be monitored to maintain these power levels while firing No. 6 fuel oil, except during periods of startup and shutdown to ensure compliance with the PM limit. Startup is defined as the period of time between boiler light-off and the online connection to the electrical grid. Shutdown is defined as the period beginning when the unit is disconnected from the electrical grid to the extinguishment of fires in the boiler.

The justification for using opacity COMS data as an indicator of PM compliance is based on the assumption that as opacity increases PM emissions are also increasing. However, the relationship between increasing opacity and PM emissions does not necessarily result in an absolute quantifiable PM emissions rate. Opacity can still be used as an indicator of PM emissions and serve as a warning that additional action may be required. The correlation data between opacity and PM emission rates using the ESP Performance Model clearly shows if the boilers were to emit at the regulatory PM limit of 0.14 lbs/MMBtu, the corresponding opacity would exceed the regulatory opacity limits in the range of 2-4 times the allowable. Historical steady state opacity for these units is usually significantly less than the regulatory limit. Therefore using an opacity operational limit of 50% of the regulatory limit as a CAM excursion will provide reasonable confidence of PM compliance and will also require the Permittee to check the secondary power levels to the TR Sets.

*b. CAM Indicator(s)*

- i. An excursion is defined as the following:
  - A. When total secondary kilowatts falls below 28 kW for Unit No. 2 ESP TR Sets; or
  - B. When total secondary kilowatts falls below 19 kW for Unit No. 3 ESP TR Sets; or
  - C. Greater than ten percent (10%) opacity during any one hour block
- ii. When there is an excursion, the Permittee shall:
  - A. Make a record that there is problem,
  - B. Investigate cause of the excursion,
  - C. Take corrective action; and
  - D. Take preventative action.

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#### iii. Quality Assurance and Quality Control (QA/QC)

In addition to the monitoring of the indicators, the Permittee shall conduct the following activities to assure compliance:

- A. Transformer-Rectifier (TR) readings will be recorded when the system is operating under conditions described in this CAM Plan. The Permittee will compare the recorded data with past data under similar operating conditions, looking for changes that signal developing problems with the ESP.
- B. An annual inspection during the maintenance outage of the ESP will be conducted to assess the general overall condition. The inspection will include visual assessment of the condition of the guards, wires and plates, particulate deposits on the discharge and collecting electrodes, rapper rod insulators, support bushing insulators, lower stabilizer insulators, gas distribution plates, hopper trough, ash clinkers, access doors, shell seams, and alignment between collecting plates and discharge electrodes to assure that each component is in good physical condition and operating properly. These records will be useful in identifying possible patterns of repetitive component failures and will be the basis for future outage inspections.
- C. In the event that the annual ESP inspections cannot be conducted on the scheduled date due to plant operations, the Permittee shall conduct the inspections within 30 calendar days after the date the unit is released for shutdown by ISO-NE.

#### c. *Monitoring Requirements*

The Permittee shall monitor the following:

- i. Total secondary power to the ESP system at least once per 8-hr shift while firing No. 6 oil or when opacity, during any 1-hour block average, exceeds 10% when the unit is connected to the electrical grid:
  - A. Total secondary voltage and amperage from all TR sets combined
  - B. Gross electrical load in MW
- ii. Opacity using the COMS.

#### d. *Record Keeping Requirements*

The Permittee shall make and keep the following records:

- i. The total secondary voltage and amperage from all TR sets combined.
- ii. Gross Electrical load in MW
- iii. Outage inspections of ESP functional operation
- iv. Annual inspection of overall ESP condition
- v. Opacity data shall be collected electronically and maintained on the data acquisition system on a continuous basis, reduced to six-minute and one-minute block averages.

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- vi. Daily COMS calibration
- vii. Quarterly COMS audit and recalibration

*e. Reporting*

Semi-annually, as part of the semi-annual monitoring report and/or compliance certification, the Permittee shall submit a report of date, duration, cause and corrective action of any excursions.

#### **5. Opacity**

*a. Limitation or Restriction*

- i. Visible emission of no greater than 20% for any six-minute block and no greater than 40% for any one-minute block. [RCSA 22a-174-18(b)(2)]
- ii. The permittee shall implement the corrective actions approved by the Commissioner according to the schedule approved by the Commissioner. [Consent Order 1888, Section B.5] (EU-1 and EU-3)

*b. Monitoring Requirements*

The permittee shall also operate and maintain a continuous opacity monitoring system (COMS) in accordance with the regulations. [RCSA 22a-174-4]

*c. Record Keeping Requirements*

- i. The Permittee shall make and keep records of the dates and times of all opacity exceedances including the operating conditions at the time of the exceedance in accordance with Section VII of this permit using the COMS. [RCSA 22a-174-4(d)(4)]
- ii. The Permittee shall make and keep records required to demonstrate compliance with Consent Order 1888. [RCSA §22a-174-4(d)(1)]

*d. Reporting Requirements*

The Permittee shall submit all required reports in accordance with Consent Order 1888 and V.I.E of this permit.

- i. The permittee shall submit a report each calendar quarter with the following information:
  - A. The data obtained through such equipment during the preceding calendar quarter that is required to determine compliance with an emission limitation or standard;
  - B. A summary of such data;
  - C. A copy of the quality assurance audit conducted for that calendar quarter, and
  - D. A summary of all corrective actions taken in response to a failed CEM equipment audit.
- ii. The permittee shall notify the Commissioner, in writing, within seven days of the discovery of factors

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that may or will delay the completion of specific tasks set forth in the approved corrective actions. Such notice shall contain a detailed explanation of the reason(s) for the delay and an amended schedule for the implementation of the remaining tasks. [Consent Order 1888 Section B.6]

- iii. On or before the fifteenth day of the month immediately following the close of each calendar quarter, the permittee shall submit a progress report to the Commissioner describing the actions that the permittee has taken to date to comply with this consent order. Such report shall include, at least, the following:
  - A. A list of approved corrective actions completed during the quarter.
  - B. A list of any other actions performed during the quarter for the purpose of reducing the frequency of the occurrence of visible emissions that exceed the standards of RCSA Section 22a-174-18(b)(2). [Consent Order 1888 Section B.7]

#### 6. SO<sub>x</sub>: [STATE ONLY REQUIREMENT]

##### a. *Limitation or Restriction* [RCSA 22a-174-19a(e)]

- i. Combust liquid fuel, gaseous fuel or a combination of each provided that each fuel possess a fuel sulfur limit equal to or less than 0.3% sulfur, by weight (dry basis);
- ii. Meet an average emission rate of equal to or less than 0.33 pounds SO<sub>2</sub> per MMBtu for each calendar quarter for an affected unit at the premises; or
- iii. Meet an average emission rate of equal to or less than 0.3 pounds SO<sub>2</sub> per MMBtu calculated for each calendar quarter, if such owner or operator averages the emissions from two or more affected units at the premises.

##### b. *Monitoring Requirements* [RCSA 22a-174-19a(i)]

The Permittee shall maintain and operate CEM to monitor SO<sub>2</sub> emissions from each source.

##### c. *Record Keeping Requirements* [RCSA 22a-174-33(j)(1)(K)(ii)]

In accordance with Section VI.F of this permit the Permittee shall make and keep the following records:

- ii. The permittee shall obtain a fuel certification from the fuel supplier certifying the type of fuel and the weight percent of sulfur in the fuel (dry basis).
- ii. The permittee shall make and keep records of hourly SO<sub>2</sub> emission rate values, as lbs/MMBtu heat input, determined from data measured by a CEMS in accordance with the applicable provisions of 40 CFR 75 and shall determine the averages consistent with Part 6.a above.

##### d. *Reporting Requirements*

The permittee shall submit all reports in accordance with the requirements of Section VI.E of this permit and RCSA 22a-174-19a(j).

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#### 8. Baseline Annual Emissions Analysis, EU-1 (R104-0098) only

##### a. Reporting Requirement

No later than March 1 of each year the Permittee shall submit a written report of the actual annual emissions of NO<sub>x</sub>, SO<sub>2</sub>, VOC, PM-10, CO, and Lead for the prior calendar year compared to the two (2) year baseline average emissions, immediately preceding the work on the steam turbine, on an annual basis for five (5) years after the unit came back into service in February 2011.

[40 CFR 51.165(a)(1)(xii)(E)].

#### 9. Mercury and Air Toxics Standards (MATS), 40 CFR Part 63 Subpart UUUUU

##### a. Limitation or Restriction

i. The Permittee shall comply with the applicable emission limitations, work practice standards, and operating limits in 40 CFR 63.9991 and 40 CFR 63.10021.

ii. The Permittee shall comply with the applicable requirements in 40 CFR 63.10000.

iii. The Permittee shall comply with the applicable requirements of the General Provisions, 40 CFR Part 63, Subpart A. [40 CFR 63.10040]

##### b. Monitoring Requirements

The Permittee shall comply with the applicable requirements in 40 CFR.63.10010.

##### c. Record Keeping Requirements

i. The Permittee shall keep applicable records pursuant to 40 CFR 63.10032.

ii. The Permittee shall keep sufficient records of the typ(s) and amount(s) of fuel use in each calendar quarter to document the capacity factor for each unit. [RCSA 22a-174-33(j)(1)(K)(ii)]

##### d. Reporting Requirements

i. The Permittee shall keep all applicable records pursuant to 40 CFR 63.10030 and 40 CFR 63.10031

#### B. EMISSIONS UNIT 4 (EU-4): Babcock and Wilcox No. 6 and natural gas fired auxiliary steam boiler; Permit No. 104-0002; Low NO<sub>x</sub> burner and flue gas recirculation; Installed March 1982

##### 1. Allowable Fuel Use

##### a. Limitation or Restriction [P104-0002]

i. No. 6 Fuel Oil

A. 775 gallons/hour

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- B. Less than or equal to 6,789,000 gallons/year
  - C. Maximum Sulfur Content: 0.3%, by weight, dry basis
  - D. Maximum Heat Input: 117 MMBtu/hr, based on HHV of 151,000 Btu/gal
- ii. Natural Gas
- A. 90,196 ft<sup>3</sup>/hour
  - B. Less than or equal to 790,116,960 cubic feet/year
  - C. Maximum Heat Input: 92 MMBtu/hr

*b. Monitoring Requirements [P104-0002]*

The Permittee shall record the monthly and consecutive 12 month fuel consumption. The consecutive 12 month fuel consumption shall be determined by adding (for each fuel) the current month's fuel consumption to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of the previous month.

*c. Record Keeping Requirements [RCSA 22a-174-33(j)(1)(K)(ii)]*

- i. The Permittee shall keep records of the fuel certification for each delivery of fuel oil from a bulk petroleum provider or a copy of the current contract with the fuel supplier supplying the fuel used by this equipment that includes the applicable sulfur content of the fuel as a condition of each shipment. The shipping receipt or contract shall include the date of delivery, the name of the fuel supplier, type of fuel delivered, the percentage of sulfur in such fuel, by weight, dry basis, and the method used to determine the sulfur content of such fuel.
- ii. In accordance with Section VI.F of this permit the permittee shall keep records of monthly and consecutive 12 month fuel consumption for each fuel combusted. The consecutive 12 month fuel consumption shall be determined by adding the current month's fuel usage (for each fuel) to that of the previous 11 months. The permittee shall make these calculations within 30 days of the end of the previous month.

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#### *d. Reporting Requirements*

The Permittee shall submit all required reports in accordance with Sections VI.E of this Title V permit.

### **2. Steam Flow**

#### *a. Limitation or Restriction*

- i. Less than or equal to 100,000 lbs/hr firing oil.
- ii. Less than or equal to 110,000 lbs/hr firing natural gas.

#### *b. Monitoring Requirements*

The Permittee shall continuously monitor steam flow for each fuel combusted.

#### *c. Record Keeping Requirements*

In accordance with Section VI.F of this permit the permittee shall make and keep records of the hourly steam flow.

#### *d. Reporting Requirements*

The permittee shall submit all required reports in accordance with Section VI.E of this permit.

### **3. PM-10/2.5**

#### *a. Limitation or Restriction*

- i. No. 6 Fuel Oil
  - A. Less than or equal to 6.1 lbs/hr.
  - B. Less than or equal to 25.7 tpy
- ii. Natural Gas
  - A. Less than or equal to 0.68 lbs/hr.
  - B. Less than or equal to 3 tpy.

#### *b. Monitoring Requirements [RCSA 22a-174-33(j)(1)(K)(ii)]*

The permittee shall calculate PM-10/2.5 emissions from the latest stack test data.

#### *c. Record Keeping Requirements [RCSA 22a-174-33(j)(1)(K)(ii)]*

In accordance with Section VI.F of this permit the permittee shall make and keep records of monthly and annual PM-10/2.5 emissions in units of tons based on fuel use and the most recent stack test data. The consecutive 12 month emission shall be determined by adding the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for PM-10/2.5 emissions. The

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permittee shall make these calculations within 30 days of the end of the previous month.

#### *d. Reporting Requirements*

The permittee shall submit all required reports in accordance with Section VI.E of this permit.

#### **4. Opacity**

##### *a. Limitation or Restriction*

- i. Visible emissions of no greater than 20% opacity during any six-minute block average as measured by 40 CFR 60, Appendix A, Reference Method 9; or
- ii. forty percent (40%) opacity as measured by 40 CFR 60, Appendix A, Reference Method 9, reduced to a one-minute block average.

##### *b. Monitoring Requirements [RCSA 22a-174-33(j)(1)(K)(ii)]*

The permittee shall use COMS data to comply with opacity limitations.

##### *c. Record Keeping Requirements [RCSA 22a-174-33(j)(1)(K)(ii)]*

The permittee shall maintain records of the dates and times of all opacity exceedances including the operating conditions at the time of the exceedance in accordance with Section VI.F of this permit

##### *d. Reporting Requirements*

- i. The Permittee shall submit reports of opacity exceedances in accordance with Section VI of this permit.
- ii. If testing is required by the Commissioner, the Permittee shall submit reports in accordance with the requirements of Section VI.E of this permit.

#### **5. Nitrogen Oxide (NO<sub>x</sub>)**

##### *a. Limitation or Restriction*

- i. No. 6 Fuel Oil
  - A. Less than or equal to 29.25 lbs/hr.
  - B. Less than or equal to 128.1 tpy
- ii. Natural Gas
  - A. Less than or equal to 18.4 lbs/hr.
  - B. Less than or equal to 80.6 tpy.

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*b. Monitoring Requirements* [RCSA 22a-174-33(j)(1)(K)(ii)]

The permittee shall conduct NO<sub>x</sub> emission tests of the unit at least once every five years.

*c. Record Keeping Requirements* [RCSA 22a-174-33(j)(1)(K)(ii)]

In accordance with Section VI.F of this permit the permittee shall make and keep records of monthly and annual NO<sub>x</sub> emissions in units of tons based on fuel use and the most recent stack test data. The consecutive 12 month emission shall be determined by adding the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for NO<sub>x</sub> emissions. The permittee shall make these calculations within 30 days of the end of the previous month.

*d. Reporting Requirements*

The Permittee shall submit all required reports in accordance with Section VI.E of this permit.

#### **5a. Compliance Assurance Monitoring (CAM) Plan for NO<sub>x</sub> emissions**

*a. CAM Plan Justification*

EU-4 is subject to CAM since the potential uncontrolled NO<sub>x</sub> emissions exceed major source threshold, is subject to an emissions limitation or standard which is not otherwise exempt under 40 CFR 64.2(b)(1).

The pollutant specific emissions unit is a Babcock and Wilcox D-type boiler fired with natural gas or No. 6 fuel oil. The boiler is rated at 110,000 lbs/hr steam flow while combusting natural gas and 100,000 lbs/hr while combusting No. 6 oil at 200 psig saturated outlet conditions. The boiler is equipped with an induced flue gas recirculation (IFGR) control system. A PEMS algorithm/model is used in lieu of a continuous emissions monitoring system (CEMS) to calculate NO<sub>x</sub> emissions. The parameters monitored for this PEMS are based on this specific application.

While firing natural gas NO<sub>x</sub> compliance is demonstrated across all steam loads with the IFGR damper closed. When firing No. 6 oil the IFGR damper position is automated across all steam loads to achieve compliance with the NO<sub>x</sub> rate. The required damper position setting for each load was determined during stack testing. Steam load is used as an indicator only when Unit 2 (EU-1) is not operating since the two units share the same steam meter. When Unit 2 is online the fuel flow is used to adjust the IFGR damper position.

The limits on boiler fuel flow, steam flow and the IFGR damper position are to ensure the boiler operates within the NO<sub>x</sub> compliance operating envelope. The damper affects the amount of flue gas recirculated and is influential in the NO<sub>x</sub> emissions rate. The NO<sub>x</sub> emissions rate is correlated to the boiler steam flow, fuel flow and IFGR damper position as demonstrated by the stack testing used to develop the PEMS model. Stack testing was completed on March 15, 2012 while firing No. 6 oil, and on April 3, 2012 when firing natural gas. The damper position is dependent on steam flow which is directly proportional to the fuel firing rate.

*b. CAM Indicator(s)*

i. An excursion is defined as the following:

- A. Steam flow rate that exceeds 100,000 lbs/hr firing No. 6 oil; and 110,000 lbs/hr firing natural gas when Unit 2 is not online.

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- B. An IFGR damper position deviation that is greater than  $\pm 10\%$  of the boiler operating program which triggers an alarm in the control room so that adjustments can be made to restore the IFGR damper to the proper position. The boiler must be shut down if the damper position cannot be restored within one hour.
  - C. A fuel flow that exceeds 6,200 lbs/hr (775 gal/hr) firing No. 6 oil and 90,196 scfh firing natural gas.
- ii. When there is an excursion, the Permittee shall:
- A. Make a record that there is problem,
  - B. Investigate cause of the excursion,
  - C. Take corrective action; and
  - D. Take preventative action.
- iii. Quality Assurance and Quality Control (QA/QC)

In addition to the monitoring of the indicators, the Permittee shall conduct the following activities to assure compliance:

- A. 5-year calibration of the fuel flow meters (oil flow meter acceptance criteria is  $\pm 2\%$ , gas flow meter acceptance criteria is  $\pm 0.75\%$ ).
- B. Bi-annual and calibration of the steam flow monitor during scheduled outages.
- C. Data availability is 75% of the operating hours and operating days when firing No. 6 Oil.

c. *Monitoring Requirements*

The Permittee shall monitor the following:

- i. Steam Output Rate
  - A. Steam output flow rate is monitored continuously with an 823DP flow meter with an accuracy of  $\pm 0.2\%$  as input to the PEMS algorithm.
  - B. Steam output flow rate is averaged hourly and 24-hour rolling.
- ii. IFGR Damper Position
  - A. IFGR damper position is logged automatically and is in response to steam flow as an input to the PEMS algorithm.
  - B. Damper position is checked daily.
  - C. Damper position is averaged every 15 minutes.

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#### iii. Fuel Flow Rate

- A. The hourly fuel flow rates are monitored continuously as an input to the PEMS algorithm. Fuel heat content is obtained from the fuel supplier. (Steam output is used to predict heat input of fuel flow data are unavailable.)
- B. No. 6 fuel flow is measured continuously with a Micromotion Fuel Flow meter or equivalent with an accuracy of  $\pm 2.0\%$ .
- C. Natural Gas fuel flow rate is measured with a Yokogawa Model DY080 flow meter or equivalent with an accuracy of  $\pm 0.75\%$ .
- D. Fuel flow is averaged hourly and 24-hour rolling.

#### d. Record Keeping Requirements

The Permittee shall maintain records of all indicator measurements, inspections and corrective actions taken in response to excursions while firing No. 6 oil.

#### d. Reporting Requirements

The Permittee shall, as part of the semi-annual monitoring report and /or annual compliance certification, submit a report semiannually on the number, duration, cause of any excursion and the corrective action taken.

## 6. Hydrocarbon (HC)

#### a. Limitation or Restriction

##### i. No. 6 Fuel Oil

- A. Less than or equal to 0.99 lbs/hr.
- B. Less than or equal to 4.3 tpy

##### ii. Natural Gas

- A. Less than or equal to 0.49 lbs/hr.
- B. Less than or equal to 2.2 tpy.

#### b. Record Keeping Requirements [RCSA 22a-174-33(j)(1)(K)(ii)]

In accordance with Section VI.F of this permit the permittee shall make and keep records of monthly and annual HC emissions in units of tons based on fuel use, AP-42, manufacturer's data or other appropriate emissions factor. The consecutive 12 month emission shall be determined by adding the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for HC emissions. The permittee shall make these calculations within 30 days of the end of the previous month.

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#### *c. Reporting Requirements*

The Permittee shall submit all required reports in accordance with Section VI.E of this permit.

### **7. Carbon Monoxide (CO)**

#### *a. Limitation or Restriction*

##### *i. No. 6 Fuel Oil*

A. Less than or equal to 3.8 lbs/hr.

B. Less than or equal to 16.6 tpy

##### *ii. Natural Gas*

A. Less than or equal to 7.5 lbs/hr.

B. Less than or equal to 33.2 tpy.

#### *b. Record Keeping Requirements [RCSA 22a-174-33(j)(1)(K)(ii)]*

In accordance with Section VI.F of this permit the permittee shall make and keep records of monthly and annual CO emissions in units of tons based on fuel use, AP-42, manufacturer's data or other appropriate emissions factor. The consecutive 12 month emission shall be determined by adding the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for CO emissions. The permittee shall make these calculations within 30 days of the end of the previous month.

#### *c. Reporting Requirements*

The Permittee shall submit all required reports in accordance with Section VI.E of this permit.

### **8. Sulfur Dioxide (SO<sub>2</sub>)**

#### *a. Limitation or Restriction*

##### *i. No. 6 Fuel Oil*

A. Less than or equal to 36.5 lbs/hr.

B. Less than or equal to 160 tpy

##### *ii. Natural Gas*

A. Less than or equal to 0.05 lbs/hr.

B. Less than or equal to 0.24 tpy.

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*b. Monitoring Requirements* [RCSA 22a-174-33(j)(1)(K)(ii)]

The Permittee shall keep records of the fuel certification for each delivery of fuel oil from a bulk petroleum provider or a copy of the current contract with the fuel supplier supplying the fuel used by the equipment that includes the applicable sulfur content of the fuel as a condition of each shipment. The shipping receipt or contract shall include the date of delivery, the name of the fuel supplier, type of fuel delivered, the percentage of sulfur in such fuel, by weight, dry basis, and the method used to determine the sulfur content of such fuel.

*c. Record Keeping Requirements* [RCSA 22a-174-33(j)(1)(K)(ii)]

In accordance with Section VI.F of this permit the permittee shall make and keep records of monthly and annual SO<sub>2</sub> emissions in units of tons based on fuel use, AP-42, and fuel sulfur content. The consecutive 12 month emission shall be determined by adding the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for SO<sub>2</sub> emissions. The permittee shall make these calculations within 30 days of the end of the previous month.

*d. Reporting Requirements*

The Permittee shall submit all required reports in accordance with Section VI.E of this permit.

**C. EMISSIONS UNIT 5 (EU-5): Pratt & Whitney FT4A-8 20 MW Gas Turbine (Unit 10); R104-0102; Trading Agreement and Order No. 8334; Installed August 1966**

**1. Nitrogen Oxide (NO<sub>x</sub>)**

*a. Limitation or Restriction*

- i. Less than or equal to 0.29 lbs/MMBtu  
[RCSA-22a-174-22(e)(1); Trading Agreement and Order 8334]
- ii. Less than or equal to 0.15 lb/MMBtu during the period from October 1 to April 30, inclusive.  
[RCSA-22a-174-22(e)(3)]

*b. Monitoring Requirements* [RCSA 22a-174-33(j)(1)(K)(ii)]

- i. The permittee shall maintain monthly and annual records of fuel consumption.  
[RCSA 22a-174-22(l)(1)(C)]
- ii. The permittee shall conduct stack test every five years from the date of the last test.  
[RCSA 22a-174-22(k)(1)]

*c. Record Keeping Requirements* [RCSA 22a-174-22(l)(1)]

In accordance with Section VI.F of this permit the permittee shall make and keep records of:

- i. monthly and annual NO<sub>x</sub> emissions;
- ii. all tune-ups, repairs, replacement of parts and other maintenance;

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- iii. all documents submitted to the Commissioner pursuant to this section;
- iv. all charts, electronically stored data, and printed records produced by such continuous emissions monitor;
- v. procedures for calculating NOx emission rates;
- vi. the dates, times, and places of all emission testing required by this section, the persons performing the measurements, the testing methods used, the operating conditions at the time of testing, and the results of such testing;
- vii. all performance evaluations, calibration checks and adjustments on continuous emissions monitor; a record of maintenance procedures;

#### *d. Reporting Requirements*

- i. The permittee shall submit a written report to the Commissioner of any testing results within thirty (30) days of the completion of such test. [RCSA 22a-174-22(1)(2)]
- ii. The Permittee shall submit all required reports in accordance with Section VI.E of this permit.

## **2. Alternate NOx RACT Compliance: Emissions Unit 5 shall comply with Trading Agreement and Order No. 8334 at all times.**

#### *a. Limitation or Restriction*

- i. NOx emissions shall not exceed the allowable emissions limits (AEL) in Table 1 from Trading Agreement and Order No. 8334.
- ii. The Permittee may only use emissions trading, subject to the provisions of Trading Agreement and Order No. 8334, until the date of the expiration of Trading Agreement and Order No. 8334. The date of expiration of Trading Agreement and Order No. 8334 shall be the earlier of:
  - A. May 31, 2017
  - B. The date upon which the Permittee demonstrates to the Commissioner's satisfaction that actual NOx emissions from the emission units, at all times, do not exceed the corresponding AEL;
  - C. The date specified in any written notice from the Commissioner stating that the Permittee is no longer allowed to use emissions trading due to the Permittees' violation of any provision of Trading Agreement and Order No. 8334; or
  - D. The date specified in any written notice from the Commissioner, notifying the Permittee that the Commissioner has determined the use of emissions trading as a compliance option has been further restricted, modified or nullified by:
    - 1. the promulgation of an Act, Statute, or Regulation; or
    - 2. the issuance of a judgment or court order.

- iii. The Permittee shall obtain and use sufficient DERCs in such a manner as to comply with Paragraphs

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B.7 and B.8 of Trading Agreement and Order No. 8334. All DERCs use during the Ozone Season for each emissions unit described in Table 1, shall have been generated during an Ozone Season.

- iv. Vintage Restriction. For the purposes of Compliance with Section 22a-174-22 of the Regulations and the provisions of Trading Agreement and Order No. 8334, DERCs shall only remain valid for five (5) calendar years from the year of the generation of such DERCs. DERCs older than five (5) calendar years from their creation are not valid for use for compliance with Section 22a-174-22 of the Regulations and the provisions of Trading Agreement and Order No. 8334. Ozone Season DERCs generated by a CAIR NO<sub>x</sub> Ozone Season Unit during 2013 shall only remain valid until May 31, 2017.
- v. Ozone Season Fuel Use Restriction. Notwithstanding the provisions of Paragraph B.2 of Trading Agreement and Order No. 8334, when operating the units during the Ozone Season, the Permittee shall operate those units while firing or co-firing the lowest NO<sub>x</sub> emitting fuel type or combination of fuel types that the unit is authorized to burn in accordance with Departmental permit, registration or applicable regulation,
- vi. Notwithstanding Paragraph B.5 of Trading Agreement and Order No. 8334, during the Ozone Season, the Permittee may operate the emission units described above on fuels that result in higher emissions of NO<sub>x</sub>, if either:
  - A. the availability of fuel oil that complies with Paragraph B.5 is inadequate to meet the needs of residential, commercial and industrial users in this state and that such inadequate supply constitutes an emergency; or
  - B. the supply of gaseous fuels to the emission units is interrupted due to inadequate supply or in accordance with an interruptible supply agreement between the Permittee and the gaseous fuel supplier; or
  - C. the reliance on the lowest NO<sub>x</sub> emitting fuel type or combination of fuel types would prevent a timely response to dispatch directive issued by the Independent System Operator New England (ISO NE) to provide electricity pursuant to obligations in the Locational Forward Reserve Market, or
  - D. the reliance on the lowest NO<sub>x</sub> emitting fuel type or combination of fuel types would prevent a timely response to “Real-time” activation by ISO NE as operating or replacement reserve in accordance with the units’ designation as a “Fast Start Generator” or
  - E. the unit is operating in order to conduct testing required by any governmental agency or auditing/ testing required to demonstrate the ability to satisfy commitments made to ISO NE.
- vii. Fuel Flow Meters. The Permittee shall install, calibrate, maintain and operate a fuel flow meter to continuously monitor fuel feed and heat input to each emission unit described in Table 1 of Trading Agreement and Order No. 8334.

*b. Maintenance and Tune-up*

Not more than two (2) years from the date of issuance of Trading Agreement and Order No. 8334, the Permittee shall perform maintenance and inspection of this unit. Such maintenance and inspection shall include, but not be limited to, the following:

### **Section III: Applicable Requirements and Compliance Demonstration**

- i. Inspect the combustion system, and clean or replace any components of the combustion system as necessary, in accordance with manufacturer's specification or current good engineering practice;
  - ii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is calibrated and functioning in accordance with the manufacturer's specifications or current good engineering practice;
  - iii. Measure the operating parameters of the emission unit used to determine that the emission unit is operating in accordance with manufacturer's specification or current good engineering practice prior to and after any adjustments are made during maintenance, tune-up, or inspection activity;
- c. *Record Keeping Requirements*
- i. The Permittee shall make and keep records including, but not limited to the following:
    - A. Demonstration that any maintenance, tune-up, and/or inspection activity performed on the emission unit has been performed in accordance with the manufacturer's specifications or current good engineering practice,
    - B. The date and a description of any maintenance, tune-up, and/or inspection activity performed on the emission,
    - C. The name, title and affiliation of the person conducting any maintenance, tune-up, and/or inspection activity performed on the emission unit,
    - D. The operating parameters of the emission unit used to determine that the emission unit is operating in accordance with manufacturer's specification or current good engineering practice prior to and after any adjustments are made during maintenance, tune-up, or inspection activity.
  - ii. By the close of each calendar day, the Permittee shall record the actual fuel type and actual quantity of each fuel in units of volume per day or MMBtu per day for each fuel used the preceding day.
  - iii. On or before the first day of each calendar month, the Permittee shall record the number of DERCs and corresponding serial numbers and vintages for all DERCs in its possession on the first calendar day of that calendar month;
  - iv. On or before the first day of each calendar month, the Permittee shall record the number of DERCs and corresponding serial numbers, vintages, purchases/sales dates, and seller/buyer for all DERCs purchased or sold during the preceding calendar month;
  - v. On or before the first day of each calendar month, the Permittee shall record the Estimated DERCs Required for that calendar month determined in accordance with Paragraph B.7 of Trading Agreement and Order No. 8334,
  - vi. On or before the twentieth calendar day of each calendar month, the Permittee shall record the Actual DERCs Required for the preceding calendar month determined in accordance with Paragraph B.7 of Trading Agreement and Order No. 8334,
  - viii. On or before January 31 of each calendar year, the Permittee shall record the quantity of DERCs deducted in accordance with Paragraph B.9 of Trading Agreement and Order No. 8334 for the preceding month. Such records shall include the serial number and vintage of each DERC deducted from the Permittee's current balance pursuant to Paragraph B.9 of Trading Agreement and Order No. 8334;

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- ix. Not more than ninety (90) days after the completion of each Non-Ozone Season, the Permittee shall record the Non-Ozone Season Average NO<sub>x</sub> emission rate for the emission unit in Table 1 of Trading Agreement and Order No. 8334, the quantity of DERCs possessed on the first day of the Non-Ozone Season, the quantity of DERCs deducted in accordance with Paragraph B.10 of Trading Agreement and Order No. 8334;
- x. For each month of the Ozone Season, the Permittee shall maintain records attesting to the fact that any DERCs deducted from its balance in accordance with Paragraph B.9 of Trading Agreement and Order No. 8334 satisfy the requirements of Paragraph B.2. Generator certification of this fact shall be sufficient; and
- xi. On each day during the Ozone Season that the Permittee operates in accordance with Paragraph B.6 of Trading Agreement and Order No. 8334, the Permittee shall make and keep records of all emission unit operation in accordance with Paragraph B.6 of Trading Agreement and Order No. 8334, including copies of any written correspondence from the Permittees' fuel supplier detailing the duration and circumstances of the inadequate fuel oil supply or interruption of gaseous fuel supply to the emission units.

#### *c. Reporting Requirements*

No later than March 1 of every year after issuance of Trading Agreement and Order No. 8334, the Permittee shall submit to the Commissioner a written report containing copies of all of the records required pursuant to Paragraphs B.13.a – B.13.f, B.13.h and B.13.i of Trading Agreement and Order No. 8334. Not later than July 30 of each calendar year, the Permittee shall submit a written report containing copies of all records required pursuant to Paragraph B.13.g of Trading Agreement and Order No. 8334. The Commissioner may prescribe the forms to be used for the submission of these reports. The Permittee shall submit these reports on such forms, if prescribed by the Commissioner.

### **3. CAIR NO<sub>x</sub> Ozone Season Trading Program: [RCSA 22a-174-22c]**

Emissions Unit 5 (EU-5) is a CAIR NO<sub>x</sub> Ozone season unit and therefore is subject to RCSA Section 22a-174-22c. The unit shall comply with all applicable requirements stated in RCSA Section 22a-174-22c and the standard requirements of the CAIR permit application.

### **4. TSP**

#### *a. Limitation or Restriction*

Less than or equal to 0.20 lbs/MMBtu heat input. [RCSA 22a-174-18(e)(2)(D)]

#### *b. Monitoring Requirements [RCSA 22a-174-33(j)(1)(K)(ii)]*

In accordance with Section VII.F of this permit the permittee shall keep records of monthly and consecutive 12 month fuel consumption for each fuel combusted. The consecutive 12 month fuel consumption shall be determined by adding the current month's fuel usage (for each fuel) to that of the previous 11 months. The permittee shall make these calculations within 30 days of the end of the previous month.

#### *c. Record Keeping Requirements [RCSA 22a-174-22(l)(1)]*

The Permittee shall make and keep records of TSP emissions in accordance with Section VI.F of this permit using the most recent stack test data.

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#### d. Reporting Requirements

The Permittee shall submit all required reports in accordance with Section VI.E of this permit.

### 5. Opacity

#### a. Limitation or Restriction [RCSA 22a-174-18(b)(1)]

- i. Visible emissions of no greater than 20% opacity during any six-minute block average as measured by 40 CFR 60, Appendix A, Reference Method 9; or
- ii. forty percent (40%) opacity as measured by 40 CFR 60, Appendix A, Reference Method 9, reduced to a one-minute block average.

#### b. Monitoring Requirements [RCSA 22a-174-33(j)(1)(K)(ii)]

Testing shall be conducted concurrent with the required NO<sub>x</sub> testing, using EPA Method 9 (or equivalent EPA approved Method). Recurring tests shall be every five years concurrent with the required NO<sub>x</sub> testing.

#### c. Record Keeping Requirements [RCSA 22a-174-22(l)(1)]

The permittee shall maintain records of the dates and times of all opacity exceedances including the operating conditions at the time of the exceedance in accordance with Section VI.F of this permit

#### d. Reporting Requirements

- i. The Permittee shall submit reports of opacity exceedances in accordance with Section VI.E of this permit.
- ii. The Permittee shall submit reports of all testing in accordance with the requirements of Section VI.E of this permit.

### 6. SO<sub>x</sub>: [STATE ONLY REQUIREMENT]

#### a. Limitation or Restriction [R104-0102]

Combust liquid fuel, gaseous fuel or a combination of each provided that each fuel possess a fuel sulfur limit equal to or less than 0.05% sulfur, by weight (dry basis).

#### b. Monitoring Requirements [RCSA 22a-174-33(j)(1)(K)(ii)]

The permittee shall obtain a certification from the fuel supplier stating the sulfur content in each fuel shipment received at the premises.

#### c. Record Keeping Requirements [RCSA 22a-174-22(l)(1)]

The owner of an affected unit shall make and keep records pursuant to RCSA §22a-174-19a(i)(1) and Section VI.F of this permit.

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#### d. Reporting Requirements

The Permittee shall submit reports in accordance with the requirements of Sections VI.E of this permit and RCSA 22a-174-19a(j).

#### 7. Baseline Annual Emissions Analysis:

##### a. Reporting Requirement

No later than March 1 of each year the Permittee shall submit a written report of the actual annual emissions of NO<sub>x</sub>, SO<sub>2</sub>, VOC, PM-10, CO, and Lead for the prior calendar year compared to the two (2) year baseline average emissions, immediately preceding the work on the turbine, on an annual basis for five (5) years after the unit came back into service in April 2013.

[40 CFR 51.165(a)(1)(xii)(E)].

#### D. GROUPED EMISSIONS UNIT 2 (GEU-2): (4) General Electric LM6000PC 50 MW Gas Turbines; NSR Permit Nos. 104-0144; 104-0145, 104-0146, 104-0147

##### 1. Allowable Fuel Usage and Emissions:

All fuel firing rate limits are per turbine and all annual fuel usage limits are combined limits for EU-8, EU-9, EU-10, and EU-11.

##### a. Limitation or Restriction

###### i. Distillate Oil (ULSD)

- A. 3,368 gallons/hour per turbine
- B. Less than or equal to 8,363,000 gallons/year
- C. Maximum fuel sulfur content: 0.0015% (15 ppmvd)

###### ii. Natural Gas

- A. 465,569 ft<sup>3</sup>/hour per turbine
- B. Less than or equal to 2,312 million cubic feet/year

###### iii. Maximum amount of fuel usage

The permittee shall use the following equation to determine the maximum amount of fuel available to be burned in GEU-1:

$$\text{Maximum Natural Gas Use} = \text{Fuel}_{\text{ng}} - (276.45) \times \text{Fuel}_{\text{oil}}$$

Where :

**Fuel<sub>ng</sub> = 2, 312 million scf natural gas**

**Fuel<sub>oil</sub> = gallons of ULSD fuel burned (not to exceed 8,363,000 gal/yr)**

### **Section III: Applicable Requirements and Compliance Demonstration**

#### *b. Monitoring Requirements*

In accordance with Section VI.F of this permit the permittee shall monitor monthly and consecutive 12 month fuel consumption for each fuel combusted using a non-resettable totalizing fuel metering device or billing meter to continuously monitor fuel feed to these units. The consecutive 12 month fuel consumption shall be determined by adding the current month's fuel usage (for each fuel) to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of the previous month.

#### *c. Record Keeping Requirements [RCSA 22a-174-33(j)(1)(K)(ii)]*

- i. The Permittee shall keep records of the fuel certification for each delivery of fuel oil from a bulk petroleum provider or a copy of the current contract with the fuel supplier supplying the fuel used by this equipment that includes the applicable sulfur content of the fuel as a condition of each shipment. The shipping receipt or contract shall include the date of delivery, the name of the fuel supplier, type of fuel delivered, the percentage of sulfur in such fuel, by weight, dry basis, and the method used to determine the sulfur content of such fuel.
- ii. In accordance with Section VI.F of this permit the permittee shall keep records of monthly and consecutive 12 month fuel consumption for each fuel combusted. The consecutive 12 month fuel consumption shall be determined by adding the current month's fuel usage (for each fuel) to that of the previous 11 months. The permittee shall make these calculations within 30 days of the end of the previous month.

#### *d. Reporting Requirements*

The Permittee shall submit all required reports in accordance with Section VI.E of this permit.

## **2. Design Specifications**

#### *a. Requirement*

- i. Minimum Stack Height: 213 feet
- ii. Minimum Stack Diameter: 12 feet
- iii. Minimum Exhaust Gas Flow Rate at 100% load (acfm):
  - A. 646,840 (gas firing)
  - B. 631,381 (oil firing)
- iv. Minimum stack exit temperature at 100% load:
  - A. 826°F (gas firing)
  - B. 839°F (oil firing)
- v. Minimum distance from stack to property line:
  - A. 125 feet

### **Section III: Applicable Requirements and Compliance Demonstration**

*b. Monitoring Requirements*

The Permittee shall indicate compliance with the minimum exhaust flow rate and stack exit temperature by monitoring such data during each performance test. [RCSA §22a-174-33(j)(1)(K)(ii)]

*c. Record Keeping Requirements* [RCSA §22a-174-33(j)(1)(K)(ii)]

The Permittee shall make and keep records showing compliance with the minimum exhaust flow rate and stack exhaust temperature using data obtained during the performance tests for NOx.

### **3. PM-10/2.5**

*a. Limitations or Restrictions*

All emission rate limits are per turbine and all annual tonnage limits are combined worst case for EU-8, EU-9, EU-10, and EU-11, using either natural gas, ULSD or a combination thereof.

*i. Distillate Oil (ULSD)*

A. Less than or equal to 12 lbs/hour per turbine

B. Less than or equal to 14.9 tons/year

*ii. Natural Gas*

A. Less than or equal to 6 lbs/hour per turbine

B. Less than or equal to 14.9 tons/year

*b. Monitoring and Testing Requirements*

The permittee shall demonstrate compliance with the PM-10/2.5 emission limit through the initial stack test.

*c. Record Keeping Requirements*

In accordance with VI.E of this permit the permittee shall calculate and record the monthly and consecutive 12 month PM-10/2.5 emissions in units of tons. The consecutive 12 month emissions shall be determined by adding (for each pollutant) the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for each pollutant. The permittee shall make these calculations within 30 days of the end of the previous month.

*d. Reporting Requirements*

The Permittee shall submit all required reports in accordance with Section VI.E of this permit.

### **4. NOx:**

*a. Limitations or Restrictions*

### **Section III: Applicable Requirements and Compliance Demonstration**

All emission rate limits are per turbine and all annual tonnage limits are combined worst case for EU-8, EU-9, EU-10, and EU-11, using either natural gas, ULSD or a combination thereof.

- i. Distillate Oil (ULSD)
  - A. Less than or equal to 8 lbs/hour per turbine
  - B. Less than or equal to 5.9 ppmvd @15% O<sub>2</sub>
  - C. Less than or equal to 10.8 tons/year.
- ii. Natural Gas
  - A. Less than or equal to 4.35 lbs/hour per turbine
  - B. Less than or equal to 2.5 ppmvd @15% O<sub>2</sub>
  - C. Less than or equal to 10.8 tons/year

#### *b. Monitoring and Testing Requirements*

- i. The permittee shall comply with the monitoring requirements in 40 CFR Parts 60.4335 through 60.4355.
- ii. The permittee shall demonstrate compliance through stack testing once every five years starting from the date of the initial stack test to demonstrate compliance with the permit limits listed above.
- iii. NSPS NO<sub>x</sub> stack testing: Annual stack testing shall be conducted to demonstrate compliance with the NO<sub>x</sub> emission limits in accordance with 40 CFR §60.4400. If the NO<sub>x</sub> emission result from the performance test is less than or equal to 75% of the NO<sub>x</sub> emission limits of 25 ppmvd @ 15% O<sub>2</sub> when firing natural gas or 74 ppmvd @ 15% O<sub>2</sub> when firing distillate oil (ULSD) (Table 1 of 40 CFR Part 60 Subpart KKKK), the frequency of subsequent performance tests may be reduced to once every two years. As an alternative to stack testing to show compliance with the NSPS NO<sub>x</sub> emission limits, the Permittee may elect to use any of the continuous parameter monitoring methods allowed in 40 CFR §60.4340(b)(2)(iv)

#### *c. Record Keeping Requirements*

In accordance with V.I.E of this permit the permittee shall calculate and record the monthly and consecutive 12 month NO<sub>x</sub> emissions in units of tons. The consecutive 12 month emissions shall be determined by adding (for each pollutant) the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for each pollutant. The permittee shall make these calculations within 30 days of the end of the previous month.

#### *d. Reporting Requirements*

- i. The permittee shall submit the required reports pursuant to 40 CFR Part 60.4375.
- ii. The Permittee shall submit all required reports in accordance with Section V.I.E of this permit.

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#### 5. CAIR NO<sub>x</sub> Ozone Season Trading Program

Grouped Emissions Unit 2 (GEU2) is comprised of CAIR NO<sub>x</sub> Ozone season units and therefore are subject to RCSA Section 22a-174-22c. The units shall comply with all applicable requirements stated in RCSA Section 22a-174-22c and the standard requirements of the CAIR permit application.

#### 6. SO<sub>x</sub>

##### a. Limitations or Restrictions

All emission rate limits are per turbine and all annual tonnage limits are combined worst case for EU-8, EU-9, EU-10, and EU-11, using either natural gas, ULSD or a combination thereof.

##### i. Distillate Oil (ULSD)

- A. Less than or equal to 0.7 lbs/hour per turbine.
- B. Less than or equal to 0.9 tons/year (GEU-2)

##### ii. Natural Gas

- A. Less than or equal to 0.26 lbs/hour per turbine.
- B. Less than or equal to 0.9 tons/year (GEU-2)

##### iii. Sulfur dioxide emission standards and fuel sulfur limits effective on and after January 1, 2003. Notwithstanding the provisions of RCSA §22a-174-19a(b), RCSA §22a-174-19a(e) shall apply, on and after January 1, 2003, to the owner or operator of a Title IV source that is also an affected unit or units. On and after January 1, 2003, the Permittee shall: [**RCSA 22a-174-19a; STATE ONLY REQUIREMENT**]

- A. Combust liquid fuel, gaseous fuel or a combination of each provided that each fuel possess a fuel sulfur limit of equal to or less than 0.3 % sulfur, by weight (dry basis);
- B. Meet an average emission rate of equal to or less than 0.33 pounds SO<sub>2</sub> per MMBTU for each calendar quarter for an affected unit at a premises; or
- C. Meet an average emission rate of equal to or less than 0.3 pounds SO<sub>2</sub> per MMBTU calculated for each calendar quarter, if such owner or operator averages the emissions from two or more affected units at a premises.

##### b. Monitoring and Testing Requirements

- i. The permittee shall obtain a fuel certification from the fuel supplier certifying the type of fuel and the percentage of sulfur in such fuel, by weight, dry basis and the method used to determine the sulfur content.
- ii. The permittee shall demonstrate compliance with the SO<sub>x</sub> emission limit by calculating SO<sub>x</sub> emissions from based on fuel usage and fuel sulfur content in each fuel.  
[RCSA 22a-174-33(j)(1)(K)(ii)]

### **Section III: Applicable Requirements and Compliance Demonstration**

iii. The permittee shall comply with the monitoring requirements of 40 CFR Part 60.4360 through 60.4370.

*c. Record Keeping Requirements*

In accordance with VI.E of this permit the permittee shall calculate and record the monthly and consecutive 12 month SO<sub>x</sub> emissions in units of tons. The consecutive 12 month emissions shall be determined by adding (for each pollutant) the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for each pollutant. The permittee shall make these calculations within 30 days of the end of the previous month.

*d. Reporting Requirements*

i. The Permittee shall submit reports in accordance with the requirements of Sections VI.E of this permit and RCSA 22a-174-19a(j).

ii. The permittee shall submit the required reports pursuant to 40 CFR Part 60.4375.

### **7. Volatile Organic Compounds (VOC)**

*a. Limitations or Restrictions*

All emission rate limits are per turbine and all annual tonnage limits are combined worst case for EU-8, EU-9, EU-10, and EU-11, using either natural gas, ULSD or a combination thereof.

i. Distillate Oil (ULSD)

A. Less than or equal to 0.75 lbs/hour.

ii. Natural Gas

A, Less than or equal to 1.11 lbs/hour.

iii. Annual VOC emissions shall not exceed 2.8 tons/yr regardless of fuel.

*b. Monitoring Requirements*

The permittee shall calculate the VOC emissions using manufacturer's emissions data, AP-42 or other appropriate emissions factor.

*c. Record Keeping Requirements*

In accordance with Section VI.F the permittee shall make and keep records of the calculations used to demonstrate compliance with the VOC emissions limitations. [RCSA 22a-174-33(j)(1)(K)(ii)]

*d. Reporting Requirements*

The Permittee shall submit all required reports in accordance with Section VI.E of this permit.

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#### 8. Carbon Monoxide (CO)

##### *a. Limitation or Restriction*

All emission rate limits are per turbine and all annual tonnage limits are combined worst case for EU-8, EU-9, EU-10, and EU-11, using either natural gas, ULSD or a combination thereof.

##### *i. Distillate Oil (ULSD)*

- A. Less than or equal to 0.75 lbs/hour.
- B. Less than or equal to 1.0 ppmvd @ 15% O<sub>2</sub>.

##### *ii. Natural Gas*

- A. Less than or equal to 8.0 lbs/hour.
- B. Less than or equal to 5.0 ppmvd @ 15% O<sub>2</sub>.

*iii.* Annual CO emissions shall not exceed 19.9 tons/yr regardless of fuel.

##### *b. Monitoring Requirements*

The permittee shall demonstrate compliance through stack testing once every five years starting from the date of the initial stack test to demonstrate compliance with the permit limits listed above.

##### *c. Record Keeping Requirements*

The permittee shall maintain records of stack test results and make calculations demonstrating compliance with the above emission factor and limits. [RCSA §22a-174-33(j)(1)(K)(ii)]

##### *d. Reporting Requirements*

- i.* The Permittee shall submit a written report to the Commissioner of any testing results within sixty (60) days of the completion of such CO test. [RCSA §22a-174-33(j)(1)(K)(ii)]
- ii.* The Permittee shall submit all required reports in accordance with Section VI.E of this permit.

#### 9. Startup/Shutdown: NO<sub>x</sub> and CO

##### *a. Limitation or Restriction*

The permittee shall minimize emissions during periods of start-up and shut-down by the following work practices and time constraints. Start the ammonia injection as soon as the minimum catalyst temperature is reached. The oxidation catalyst will not be bypassed during start-up or shut-down. The duration of start-up and malfunction shall not exceed 60 minutes. The duration of the shut-down shall not exceed 30 minutes.

##### *i. Distillate Oil (ULSD)*

- A. NO<sub>x</sub>:

### **Section III: Applicable Requirements and Compliance Demonstration**

1. 40 lbs/hr during startup.
2. 50 lbs/hr during shutdown.

#### **B. CO:**

1. 18 lbs/hr during startup.
2. 18 lbs/hr during shutdown.

#### **ii. Natural Gas**

##### **A. NOx:**

1. 20 lbs/hr during startup.
2. 25 lbs/hr during shutdown.

##### **B. CO:**

1. 32 lbs/hr during startup.
2. 54 lbs/hr during shutdown.

#### **b. Record Keeping Requirements**

- i. In accordance with Section VI.F of this permit the permittee shall keep records of manufacturer supplied emission factors showing compliance with the above emission limits. The permittee shall calculate and record the monthly and consecutive 12 month NOx and CO start-up/shutdown emissions in units of tons. Emissions during these periods shall be counted towards the annual emission limits stated in Permit Numbers 105-0098, 105-0099, 105-0100, and 105-0101 and this permit.
- ii. The permittee shall maintain records of the occurrence and duration of any start-up or shut-down in the operation of the combustion turbines.

#### **c. Reporting Requirements**

The Permittee shall submit reports of annual NOx and CO emissions in accordance with Section VI.E of this permit.

### **10. Ammonia**

#### **a. Limitations or Restrictions**

Ammonia emissions from each unit shall be less than or equal to 5.0 ppmvd@15% O<sub>2</sub>.

#### **b. Monitoring and Testing Requirements**

The permittee shall demonstrate compliance through stack testing once every five years starting from the date of the initial stack test to demonstrate compliance with the permit limit listed above.

### **Section III: Applicable Requirements and Compliance Demonstration**

*c. Record Keeping Requirements*

In accordance with Section VI.F of this permit the permittee shall make and keep records showing continual compliance using the most recent stack test.

*d. Reporting Requirements*

The Permittee shall submit all required reports in accordance with Section VI.E of this permit.

#### **11. Pollution Control Equipment (SCR/Oxidation Catalyst/Water Injection)**

*a. Limitation or Restriction*

The permittee shall operate and maintain the air pollution control equipment in accordance with the manufacturer's specifications and written recommendations. The permittee shall operate and maintain these stationary combustion turbines, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emission at all times including during startup, shutdown, and malfunction. [40 CFR §60.4333(a)]

*b. Monitoring Requirements*

- i. The permittee shall use a CEM to continuously monitor the water-to-fuel ratio.
- ii. The permittee shall continuously monitor the SCR ammonia injection rate (lb/hr), operating temperature (°F) and the pressure drop (inches of water) across the SCR catalyst bed.
- iii. The permittee shall continuously monitor the oxidation catalyst inlet temperature (°F).

*c. Record Keeping Requirements*

In accordance with Section VI.F of this permit the permittee shall make and keep the following records for the pollution control equipment:

- i. The permittee shall keep records of the inspection and maintenance of the SCR and oxidation catalyst. The records shall include the name of the person, the date, the results or actions and the date the catalyst is replaced.
- ii. The permittee shall maintain records of the occurrence and duration of any start-up, shut-down, or malfunction in the operation of the combustion turbines; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring device is inoperative.
- iii. The permittee shall continuously record the SCR ammonia injection rate (lb/hr), operating temperature (°F) and the pressure drop (inches of water) across the SCR catalyst bed.
- iv. The permittee shall continuously record the oxidation catalyst inlet temperature (°F).
- v. The permittee shall keep records of manufacturer's specifications and written recommendations.

### **Section III: Applicable Requirements and Compliance Demonstration**

#### *d. Reporting Requirements*

- i. The permittee shall notify the commissioner in writing of any malfunction of the stationary gas turbines, the air pollution control equipment or the continuous monitoring system. The permittee shall submit such notification with seven days of the malfunction. The notification shall include the following:
  - A. Description of the malfunction and a description of the circumstances surrounding the cause or likely cause of such malfunction and,
  - B. Description of all corrective actions and preventative measures taken and/or planned with respect to such malfunction and the dates of such actions and measures.

#### **12. Turbine Exchanges**

##### *a. Record Keeping Requirements*

In accordance with Section VI.F of this permit the permittee shall make and keep records of when the turbines are exchanged for routine maintenance, to include the following:

- i. The date the turbine was changed,
- ii. the reason for the change,
- iii. documentation that the replacement turbine does not result in an increase in emissions, the emission of any new air pollutants, or increases in electrical output of the turbine.

#### **13. NSPS: 40 CFR Part 60 Subpart KKKK**

The Permittee shall comply with the New Source Performance Standard for Stationary Gas Turbines as specified in 40 CFR 60, Subpart KKKK.

##### *a. Limitation or Restriction*

- i. The Permittee shall comply with the NO<sub>x</sub> emission limits found in 40 CFR 60.4320 and §60.4325.
- ii. The Permittee shall comply with the SO<sub>2</sub> emission limit found in 40 CFR 60.4330.

##### *b. Monitoring Requirements*

- i. The Permittee shall comply with the monitoring requirements found in 40 CFR 60.4335 through §60.4370, where applicable, for NO<sub>x</sub> and SO<sub>2</sub>.
- ii. The Permittee shall comply with the performance test requirements found in 40 CFR 60.4400 through §60.4415, where applicable.

##### *c. Reporting Requirements*

The Permittee shall submit the required reports found in 40 CFR 60.4375 through §60.4395, where applicable.

## Section III: Applicable Requirements and Compliance Demonstration

### E. FEDERAL ACID RAIN PERMIT REQUIREMENTS

#### Federal Acid Rain Permit Requirements

#### 1. SO<sub>2</sub> Allowance Allocations and NO<sub>x</sub> Requirements for Each Affected Unit

a. Unit 2: 117 MW Riley boiler rated at 1,295 MMBtu/hr

		2015	2016	2017	2018	2019
EU-1 Unit 2	SO <sub>2</sub> Allowances under Tables 2,3,or 4 of 40 CFR Part 73	1,332	1,332	1,332	1,332	1,332
NO <sub>x</sub> Limit		Not an Affected Unit under 40 CFR Part 76				

b. Unit 3: 236 MW B&W cyclone boiler rated at 2,370 MMBtu/hr

		2015	2016	2017	2018	2019
EU-2 Unit 3	SO <sub>2</sub> Allowances under Tables 2,3,or 4 of 40 CFR Part 73	3,345	3,345	3,345	3,345	3,345
NO <sub>x</sub> Limit		Not an Affected Unit under 40 CFR Part 76				

c. Unit 4: 400 MW Combustion Engineering boiler rated at 4,684 MMBtu/hr

		2015	2016	2017	2018	2019
EU-3 Unit 4	SO <sub>2</sub> Allowances under Tables 2,3,or 4 of 40 CFR Part 73	2,393	2,393	2,393	2,393	2,393
NO <sub>x</sub> Limit		Not an Affected Unit under 40 CFR Part 76				

### Section III: Applicable Requirements and Compliance Demonstration

#### Federal Acid Rain Permit Requirements

d. Unit 12: General Electric 50 MW Combustion Turbine Model LM6000PC

		2015	2016	2017	2018	2019
EU-8 Unit 12	SO <sub>2</sub> Allowances under Tables 2,3,or 4 of 40 CFR Part 73	0	0	0	0	0
	NO <sub>x</sub> Limit	Not an Affected Unit under 40 CFR Part 76				

e. Unit 13: General Electric 50 MW Combustion Turbine Model LM6000PC

		2015	2016	2017	2018	2019
EU-9 Unit 13	SO <sub>2</sub> Allowances under Tables 2,3,or 4 of 40 CFR Part 73	0	0	0	0	0
	NO <sub>x</sub> Limit	Not an Affected Unit under 40 CFR Part 76				

f. Unit 14: General Electric 50 MW Combustion Turbine Model LM6000PC

		2015	2016	2017	2018	2019
EU-10 Unit 14	SO <sub>2</sub> Allowances under Tables 2,3,or 4 of 40 CFR Part 73	0	0	0	0	0
	NO <sub>x</sub> Limit	Not an Affected Unit under 40 CFR Part 76				

### Section III: Applicable Requirements and Compliance Demonstration

#### Federal Acid Rain Permit Requirements

g. Unit 13: General Electric 50 MW Combustion Turbine Model LM6000PC

		2015	2016	2017	2018	2019
EU-11 Unit 15	SO <sub>2</sub> Allowances under Tables 2,3,or 4 of 40 CFR Part 73	0	0	0	0	0
	NO <sub>x</sub> Limit	Not an Affected Unit under 40 CFR Part 76				

#### 2. Phase II Acid Rain Permit Application

The attached Phase II Acid Rain Permit Application is hereby incorporated by reference into this Title V permit. If this Title V permit is in conflict with or inconsistent with the Phase II Acid Rain Permit Application, the Title V permit requirements, including any applicable requirement under 40 CFR Parts 72 through 78, inclusive, shall supersede the Phase II Acid Rain Permit Application and the Permittee shall be governed by and adhere to this Title V permit and any applicable requirement under 40 CFR Parts 72 through 78, inclusive.

## Section III: Applicable Requirements and Compliance Demonstration

### F. PREMISES-WIDE GENERAL REQUIREMENTS

#### Premises-Wide General Requirements

1. **Annual Emission Statements:** The Permittee shall submit annual emission statements requested by the commissioner as set forth in RCSA §22a-174-4(d)(1).
2. **Emission Testing:** The Permittee shall comply with the procedures for sampling, emission testing, sample analysis, and reporting as set forth in RCSA §22a-174-5.
3. **Emergency Episode Procedures:** The Permittee shall comply with the procedures for emergency episodes as set forth in RCSA §22a-174-6.
4. **Reporting of Malfunctioning Control Equipment:** The Permittee shall comply with the reporting requirements of malfunctioning control equipment as set forth in RCSA §22a-174-7.
5. **Prohibition of Air Pollution:** The Permittee shall comply with the requirement to prevent air pollution as set forth in RCSA §22a-174-9.
6. **Public Availability of Information:** The public availability of information shall apply, as set forth in RCSA §22a-174-10.
7. **Prohibition Against Concealment/Circumvention:** The Permittee shall comply with the prohibition against concealment or circumvention as set forth in RCSA §22a-174-11.
8. **Violations and Enforcement:** The Permittee shall not violate or cause the violation of any applicable regulation as set forth in RCSA §22a-174-12.
9. **Variances:** The Permittee may apply to the commissioner for a variance from one or more of the provisions of these regulations as set forth in RCSA §22a-174-13.
10. **No Defense to Nuisance Claim:** The Permittee shall comply with the regulations as set forth in RCSA §22a-174-14.
11. **Severability:** The Permittee shall comply with the severability requirements as set forth in RCSA §22a-174-15.
12. **Responsibility to Comply:** The Permittee shall be responsible to comply with the applicable regulations as set forth in RCSA §22a-174-16.
13. **Particulate Emissions:** The Permittee shall comply with the standards for control of particulate matter and visible emissions as set forth in RCSA §22a-174-18. (Section 18 approved by EPA on 9-23-1982, current Regulation submitted to EPA on 12-1-2004.)
14. **Sulfur Compound Emissions:** The Permittee shall comply with the requirements for control of sulfur compound emissions as set forth in RCSA §22a-174-19.
15. **Sulfur Dioxide Emissions:** The Permittee shall comply with the requirements for control of sulfur dioxide emissions from power plants and other large stationary sources of air pollution as set forth in RCSA §22a-174-19a. (STATE-ONLY REQUIREMENT)

### Section III: Applicable Requirements and Compliance Demonstration

16. **Organic Compound Emissions:** The Permittee shall comply with the requirements for control of organic compound emissions as set forth in RCSA §22a-174-20.
17. **Nitrogen Oxide Emissions:** The Permittee shall comply with the requirements for control of nitrogen oxide emissions as set forth in RCSA §22a-174-22.
18. **Ambient Air Quality:** The Permittee shall not cause or contribute to a violation of an ambient air quality standard as set forth in RCSA §22a-174-24(b).
19. **Emission Fees:** The Permittee shall pay an emission fee as set forth in RCSA §22a-174-26(d).
20. **Fuel Oil Blending:** The DEEP has granted approval to the permittee to receive, store, and blend fuel oil with greater than one half of one percent (0.5%) sulfur by dry weight in its non-operating, non-day tanks which are filled for daily burn, at the site, provided that the permittee complies with the following conditions:
  - a. The permittee shall maintain records of the volume and sulfur content by dry weight of any and all fuel transfers into, out of, and between tanks;
  - b. The permittee shall inform the DEEP in writing at least three (3) days prior to transferring fuel with greater than one half of one percent (0.5%) sulfur dry weight from the facility to site(s) outside of Connecticut and shall specify the volume, percent (%) sulfur content by dry weight, and destination(s) of the fuel transferred;
  - c. The permittee shall not dispense, under any circumstances, any fuel with greater than one half of one percent (0.5%) sulfur content by dry weight or any non-conforming fuel from any tank for distribution to a fuel user in Connecticut. Any fuel with greater than one half of one percent (0.5%) sulfur dry weight at any facility shall only be transferred to sites outside of Connecticut, and never transferred to site(s) in Connecticut; and
  - d. The permittee shall designate one operating tank on the premises at all times to store fuel with one half of one percent (0.5%) sulfur by dry weight or less to supply its own generating units. Such operating tank(s) may be designated as any of the non-day tanks to allow for routine maintenance or repairs. Failure to maintain such records or failure to inform the DEEP of all transfers may result in the DEEP's revocation of approval.

**Section IV: Compliance Schedule**

<b>TABLE IV: COMPLIANCE SCHEDULE</b>				
<b>Emissions Unit</b>	<b>Applicable Regulations</b>	<b>Steps Required for Achieving Compliance (Milestones)</b>	<b>Date by which Each Step is to be Completed</b>	<b>Dates for Monitoring, Record Keeping, and Reporting</b>
		<b>No steps are required for achieving compliance at this time.</b>		

## Section V: State Enforceable Terms and Conditions

Only the Commissioner of the Department of Energy and Environmental Protection has the authority to enforce the terms, conditions and limitations contained in this section.

### State Enforceable Terms and Conditions

- A.** This Title V permit does not relieve the Permittee of the responsibility to conduct, maintain and operate the emissions units in compliance with all applicable requirements of any other Bureau of the Department of Energy and Environmental Protection or any federal, local or other state agency. Nothing in this Title V permit shall relieve the Permittee of other obligations under applicable federal, state and local law.
- B.** Nothing in this Title V permit shall affect the commissioner's authority to institute any proceeding or take any other action to prevent or abate violations of law, prevent or abate pollution, investigate air pollution, recover costs and natural resource damages, and to impose penalties for violations of law, including but not limited to violations of this or any other permit issued to the Permittee by the commissioner.
- C. Additional Emissions Units**
- 1.** The Permittee shall make and submit a written record, at the commissioner's request, within 30 days of receipt of notice from the commissioner, or by such other date specified by the commissioner, of each additional emissions unit or group of similar or identical emissions units at the premises.
- 2.** Such record of additional emissions units shall include each emissions unit, or group of emissions units, at the premises which is not listed in Section II.A of this Title V permit, unless the emissions unit, or group of emissions units, is:
- a. an insignificant emissions unit as defined in RCSA §22a-174-33; or
  - b. an emissions unit or activity listed in *White Paper for Streamlined Development of Part 70 Permit Applications, Attachment A* (EPA guidance memorandum dated July 10, 1995).
- 3.** For each emissions unit, or group of emissions units, on such record, the record shall include, as available:
- a. Description, including make and model;
  - b. Year of construction/installation or if a group, range of years of construction/installation;
  - c. Maximum throughput or capacity; and
  - d. Fuel type, if applicable.
- D. Odors:** The Permittee shall not cause or permit the emission of any substance or combination of substances which creates or contributes to an odor that constitutes a nuisance beyond the property boundary of the premises as set forth in RCSA §22a-174-23.
- E. Noise:** The Permittee shall operate in compliance with the regulations for the control of noise as set forth in RCSA §§22a-69-1 through 22a-69-7.4, inclusive.
- F. Hazardous Air Pollutants (HAPs):** The Permittee shall operate in compliance with the regulations for the control of HAPs as set forth in RCSA §22a-174-29.

## **Section V: State Enforceable Terms and Conditions**

### **State Enforceable Terms and Conditions**

- G.** Open Burning: The Permittee is prohibited from conducting open burning, except as may be allowed by CGS §22a-174(f).
- H.** Fuel Sulfur Content: The Permittee shall not use No. 2 heating oil that exceeds three-tenths of one percent sulfur by weight as set forth in CGS §16a-21a.
- I.** The Permittee shall comply with the requirements for Control of Sulfur Dioxide Emissions from Power Plants and other large stationary sources of air pollution as set forth in RCSA §22a-174-19a.
- J.** The Permittee shall comply with the requirements for Control of Carbon Dioxide Emissions as set forth in RCSA §22a-174-31.

## Section VI: Title V Requirements

The Administrator of the United States Environmental Protection Agency and the Commissioner of the Department of Energy and Environmental Protection have the authority to enforce the terms and conditions contained in this section.

### Title V Requirements

#### A. SUBMITTALS TO THE COMMISSIONER & ADMINISTRATOR

The date of submission to the commissioner of any document required by this Title V permit shall be the date such document is received by the commissioner. The date of any notice by the commissioner under this Title V permit, including, but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is delivered or the date three days after it is mailed by the commissioner, whichever is earlier. Except as otherwise specified in this Title V permit, the word "day" means calendar day. Any document or action which is required by this Title V permit to be submitted or performed by a date which falls on a Saturday, Sunday or legal holiday shall be submitted or performed by the next business day thereafter.

Any document required to be submitted to the commissioner under this Title V permit shall, unless otherwise specified in writing by the commissioner, be directed to: Office of the Director; Engineering & Enforcement Division; Bureau of Air Management; Department of Energy and Environmental Protection; 79 Elm Street, 5th Floor; Hartford, Connecticut 06106-5127.

Any submittal to the Administrator of the Environmental Protection Agency shall be in a computer-readable format and addressed to: Director, Air Compliance Program; Attn: Air Compliance Clerk; Office of Environmental Stewardship; EPA Region 1; 5 Post Office Square, Suite 100; Mail Code OEP05-02; Boston, Massachusetts 02109-3912.

#### B. CERTIFICATIONS [RCSA §22a-174-33(b)]

In accordance with RCSA §22a-174-33(b), any report or other document required by this Title V permit and any other information submitted to the commissioner or Administrator shall be signed by an individual described in RCSA §22a-174-2a(a), or by a duly authorized representative of such individual. Any individual signing any document pursuant to RCSA §22a-174-33(b) shall examine and be familiar with the information submitted in the document and all attachments thereto, and shall make inquiry of those individuals responsible for obtaining the information to determine that the information is true, accurate, and complete, and shall also sign the following certification as provided in RCSA §22a-174-2a(a)(4):

“I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense under Section 22a-175 of the Connecticut General Statutes, under Section 53a-157b of the Connecticut General Statutes, and in accordance with any applicable statute.”

#### C. SIGNATORY RESPONSIBILITY [RCSA §22a-174-2a(a)]

For purposes of signing any Title V-related application, document, report or certification required by RCSA §22a-174-33, any corporation's duly authorized representative may be either a named individual or any individual occupying a named position. Such named individual or individual occupying a named position is a duly authorized representative if such individual is responsible for the overall operation of one or more manufacturing, production or operating facilities subject to RCSA §22a-174-33 and either:

1. The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding 25 million dollars in second quarter 1980 dollars; or

## Section VI: Title V Requirements

### Title V Requirements

2. The delegation of authority to the duly authorized representative has been given in writing by an officer of the corporation in accordance with corporate procedures and the following:
  - i. Such written authorization specifically authorizes a named individual, or a named position, having responsibility for the overall operation of the Title V premises or activity,
  - ii. Such written authorization is submitted to the commissioner and has been approved by the commissioner in advance of such delegation. Such approval does not constitute approval of corporate procedures, and
  - iii. If a duly authorized representative is a named individual in an authorization submitted under subclause ii. of this subparagraph and a different individual is assigned or has assumed the responsibilities of the duly authorized representative, or, if a duly authorized representative is a named position in an authorization submitted under subclause ii. of this subparagraph and a different named position is assigned or has assumed the duties of the duly authorized representative, a new written authorization shall be submitted to the commissioner prior to or together with the submission of any application, document, report or certification signed by such representative.

#### **D. ADDITIONAL INFORMATION** [RCSA §22a-174-33(j)(1)(X), RCSA §22a-174-33(h)(2)]

The Permittee shall submit additional information in writing, at the commissioner's request, within 30 days of receipt of notice from the commissioner or by such other date specified by the commissioner, whichever is earlier, including information to determine whether cause exists for modifying, revoking, reopening, reissuing, or suspending this Title V permit or to determine compliance with this Title V permit.

In addition, the Permittee shall submit information to address any requirements that become applicable to the subject source and shall submit correct, complete, and sufficient information within 15 days of the applicant's becoming aware of any incorrect, incomplete, or insufficient submittal, during the pendency of the application, or any time thereafter, with an explanation for such deficiency and a certification pursuant to RCSA §22a-174-2a(a)(5).

#### **E. MONITORING REPORTS** [RCSA §22a-174-33(o)(1)]

A Permittee, required to perform monitoring pursuant this Title V permit, shall submit to the commissioner, on forms prescribed by the commissioner, written monitoring reports on March 1 and September 1 of each year or on a more frequent schedule if specified in such permit. Such monitoring reports shall include the date and description of each deviation from a permit requirement including, but not limited to:

1. Each deviation caused by upset or control equipment deficiencies; and
2. Each deviation of a permit requirement that has been monitored by the monitoring systems required under this Title V permit, which has occurred since the date of the last monitoring report; and
3. Each deviation caused by a failure of the monitoring system to provide reliable data.

#### **F. PREMISES RECORDS** [RCSA §22a-174-33(o)(2)]

Unless otherwise required by this Title V permit, the Permittee shall make and keep records of all required monitoring data and supporting information for at least five years from the date such data and information were obtained. The Permittee shall make such records available for inspection at the site of the subject source, and shall submit such records to the commissioner upon request. The following information, in addition to required monitoring data, shall be recorded for each permitted source:

1. The type of monitoring or records used to obtain such data, including record keeping;
2. The date, place, and time of sampling or measurement;

## Section VI: Title V Requirements

### Title V Requirements

3. The name of the individual who performed the sampling or the measurement and the name of such individual's employer;
4. The date(s) on which analyses of such samples or measurements were performed;
5. The name and address of the entity that performed the analyses;
6. The analytical techniques or methods used for such analyses;
7. The results of such analyses;
8. The operating conditions at the subject source at the time of such sampling or measurement; and
9. All calibration and maintenance records relating to the instrumentation used in such sampling or measurements, all original strip-chart recordings or computer printouts generated by continuous monitoring instrumentation, and copies of all reports required by the subject permit.

#### **G. PROGRESS REPORTS** [RCSA §22a-174-33(q)(1)]

The Permittee shall, on March 1 and September 1 of each year, or on a more frequent schedule if specified in this Title V permit, submit to the commissioner a progress report on forms prescribed by the commissioner, and certified in accordance with RCSA §22a-174-2a(a)(5). Such report shall describe the Permittee's progress in achieving compliance under the compliance plan schedule contained in this Title V permit. Such progress report shall:

1. Identify those obligations under the compliance plan schedule in this Title V permit which the Permittee has met, and the dates on which they were met; and
2. Identify those obligations under the compliance plan schedule in this Title V permit which the Permittee has not timely met, explain why they were not timely met, describe all measures taken or to be taken to meet them and identify the date by which the Permittee expects to meet them.

Any progress report prepared and submitted pursuant to RCSA §22a-174-33(q)(1) shall be simultaneously submitted by the Permittee to the Administrator.

#### **H. COMPLIANCE CERTIFICATIONS** [RCSA §22a-174-33(q)(2)]

The Permittee shall, on March 1 of each year, or on a more frequent schedule if specified in this Title V permit, submit to the commissioner a written compliance certification certified in accordance with RCSA §22a-174-2a(a)(5) and which includes the information identified in 40 CFR §§70.6(c)(5)(iii)(A) to (C), inclusive.

Any compliance certification prepared and submitted pursuant to RCSA §22a-174-33(q)(2) shall be simultaneously submitted by the Permittee to the Administrator.

#### **I. PERMIT DEVIATION NOTIFICATIONS** [RCSA §22a-174-33(p)]

Notwithstanding Section VI.D of this Title V permit, the Permittee shall notify the commissioner in writing, on forms prescribed by the commissioner, of any deviation from an emissions limitation, and shall identify the cause or likely cause of such deviation, all corrective actions and preventive measures taken with respect thereto, and the dates of such actions and measures as follows:

1. For any hazardous air pollutant, no later than 24 hours after such deviation commenced; and
2. For any other regulated air pollutant, no later than ten days after such deviation commenced.

#### **J. PERMIT RENEWAL** [RCSA §22a-174-33(j)(1)(B)]

All of the terms and conditions of this Title V permit shall remain in effect until the renewal permit is issued or denied provided that a timely renewal application is filed in accordance with RCSA §§22a-174-33(g), -33(h), and -33(i).

## Section VI: Title V Requirements

### Title V Requirements

#### **K. OPERATE IN COMPLIANCE** [RCSA §22a-174-33(j)(1)(C)]

The Permittee shall operate the source in compliance with the terms of all applicable regulations, the terms of this Title V permit, and any other applicable provisions of law. In addition, any noncompliance constitutes a violation of the Clean Air Act and Chapter 446c of the Connecticut General Statutes and is grounds for federal and/or state enforcement action, permit termination, revocation and reissuance, or modification, and denial of a permit renewal application.

#### **L. COMPLIANCE WITH PERMIT** [RCSA §22a-174-33(j)(1)(G)]

This Title V permit shall not be deemed to:

1. Preclude the creation or use of emission reduction credits or allowances or the trading thereof in accordance with RCSA §§22a-174-33(j)(1)(I) and -33(j)(1)(P), provided that the commissioner's prior written approval of the creation, use, or trading is obtained;
2. Authorize emissions of an air pollutant so as to exceed levels prohibited pursuant to 40 CFR Part 72;
3. Authorize the use of allowances pursuant to 40 CFR Parts 72 through 78, inclusive, as a defense to noncompliance with any other applicable requirement; or
4. Impose limits on emissions from items or activities specified in RCSA §§22a-174-33(g)(3)(A) and -33(g)(3)(B) unless imposition of such limits is required by an applicable requirement.

#### **M. INSPECTION TO DETERMINE COMPLIANCE** [RCSA §22a-174-33(j)(1)(M)]

The commissioner may, for the purpose of determining compliance with this Title V permit and other applicable requirements, enter the premises at reasonable times to inspect any facilities, equipment, practices, or operations regulated or required under such permit; to sample or otherwise monitor substances or parameters; and to review and copy relevant records lawfully required to be maintained at such premises in accordance with this Title V permit. It shall be grounds for permit revocation should entry, inspection, sampling, or monitoring be denied or effectively denied, or if access to and the copying of relevant records is denied or effectively denied.

#### **N. PERMIT AVAILABILITY**

The Permittee shall have available at the facility at all times a copy of this Title V permit.

#### **O. SEVERABILITY CLAUSE** [RCSA §22a-174-33(j)(1)(R)]

The provisions of this Title V permit are severable. If any provision of this Title V permit or the application of any provision of this Title V permit to any circumstance is held invalid, the remainder of this Title V permit and the application of such provision to other circumstances shall not be affected.

#### **P. NEED TO HALT OR REDUCE ACTIVITY** [RCSA §22a-174-33(j)(1)(T)]

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Title V permit.

#### **Q. PERMIT REQUIREMENTS** [RCSA §22a-174-33(j)(1)(V)]

The filing of an application or of a notification of planned changes or anticipated noncompliance does not stay the Permittee's obligation to comply with this Title V permit.

#### **R. PROPERTY RIGHTS** [RCSA §22a-174-33(j)(1)(W)]

This Title V permit does not convey any property rights or any exclusive privileges. This Title V permit is subject to, and in no way derogates from any present or future property rights or other rights or powers of the State of Connecticut, and is further subject to any and all public and private rights and to any federal, state or local laws or regulations pertinent to the facility or regulated activity affected thereby, including CGS §4-181a(b) and RCSA §22a-3a-5(b). This Title V permit shall neither create nor affect any rights of persons who are not

## Section VI: Title V Requirements

### Title V Requirements

parties to this Title V permit.

#### **S. ALTERNATIVE OPERATING SCENARIO RECORDS** [RCSA §22a-174-33(o)(3)]

The Permittee shall, contemporaneously with making a change authorized by this Title V permit from one alternative operating scenario to another, maintain a record at the premises indicating when changes are made from one operating scenario to another and shall maintain a record of the current alternative operating scenario.

#### **T. OPERATIONAL FLEXIBILITY AND OFF-PERMIT CHANGES** [RCSA §22a-174-33(r)(2)]

The Permittee may engage in any action allowed by the Administrator in accordance with 40 CFR §§70.4(b)(12)(i) to (iii)(B), inclusive, and 40 CFR §§70.4(b)(14)(i) to (iv), inclusive, without a Title V non-minor permit modification, minor permit modification or revision and without requesting a Title V non-minor permit modification, minor permit modification or revision provided such action does not:

1. Constitute a modification under 40 CFR Part 60, 61 or 63;
2. Exceed emissions allowable under the subject permit;
3. Constitute an action which would subject the Permittee to any standard or other requirement pursuant to 40 CFR Parts 72 to 78, inclusive; or
4. Constitute a non-minor permit modification pursuant to RCSA §22a-174-2a(d)(4).

At least seven days before initiating an action specified in RCSA §22a-174-33(r)(2)(A), the Permittee shall notify the Administrator and the commissioner in writing of such intended action.

#### **U. INFORMATION FOR NOTIFICATION** [RCSA §22a-174-33(r)(2)(A)]

Written notification required under RCSA §22a-174-33(r)(2)(A) shall include a description of each change to be made, the date on which such change will occur, any change in emissions that may occur as a result of such change, any Title V permit terms and conditions that may be affected by such change, and any applicable requirement that would apply as a result of such change. The Permittee shall thereafter maintain a copy of such notice with the Title V permit. The commissioner and the Permittee shall each attach a copy of such notice to their copy of the Title V permit.

#### **V. TRANSFERS** [RCSA §22a-174-2a(g)]

No person other than the Permittee shall act or refrain from acting under the authority of this Title V permit unless such permit has been transferred to another person in accordance with RCSA §22a-174-2a(g).

The proposed transferor and transferee of a permit shall submit to the commissioner a request for a permit transfer on a form provided by the commissioner. A request for a permit transfer shall be accompanied by any fees required by any applicable provision of the general statutes or regulations adopted thereunder. The commissioner may also require the proposed transferee to submit with any such request, the information identified in CGS §22a-6m.

#### **W. REVOCATION** [RCSA §22a-174-2a(h)]

The commissioner may revoke this Title V permit on his own initiative or on the request of the Permittee or any other person, in accordance with CGS §4-182(c), RCSA §22a-3a-5(d), and any other applicable law. Any such request shall be in writing and contain facts and reasons supporting the request. The Permittee requesting revocation of this Title V permit shall state the requested date of revocation and provide evidence satisfactory to the commissioner that the subject source is no longer a Title V source.

Pursuant to the Clean Air Act, the Administrator has the power to revoke this Title V permit. Pursuant to the Clean Air Act, the Administrator also has the power to reissue this Title V permit if the Administrator has

## **Section VI: Title V Requirements**

### **Title V Requirements**

determined that the commissioner failed to act in a timely manner on a permit renewal application.

This Title V permit may be modified, revoked, reopened, reissued, or suspended by the commissioner, or the Administrator in accordance with RCSA §22a-174-33(r), CGS §22a-174c, or RCSA §22a-3a-5(d).

#### **X. REOPENING FOR CAUSE [RCSA §22a-174-33(s)]**

This Title V permit may be reopened by the commissioner, or the Administrator in accordance with RCSA §22a-174-33(s).

#### **Y. CREDIBLE EVIDENCE**

Notwithstanding any other provision of this Title V permit, for the purpose of determining compliance or establishing whether a Permittee has violated or is in violation of any permit condition, nothing in this Title V permit shall preclude the use, including the exclusive use, of any credible evidence or information.