



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.

Title V Permit Number	.015-0217-TV
Client/Sequence/Town/Premises Numbers	8087/01/015/0045
Revision Date Issued	June 8, 2016
Expiration Date	October 31, 2017

Corporation:

PSEG Power Connecticut, LLC

Premises Location:

Bridgeport Harbor Station, 1 Atlantic Street, Bridgeport, CT 06604

Name of Responsible Official and Title:

Karl A. Wintermeyer, Plant Manager

All the following attached pages, 2 through 54, are hereby incorporated by reference into this Title V permit.

/s/Anne Gobin for
Robert J. Klee
Commissioner

June 8, 2016
Date

TABLE OF CONTENTS

PAGE

List of Abbreviations/Acronyms	4
Section I. Premises Information/Description	
A. Premises Information	6
B. Premises Description.....	6
Section II. Emissions Units Information	
A. Emissions Units Description - Table II.A	7
B. Operating Scenario Identification - Table II.B.....	8
Section III. Applicable Requirements and Compliance Demonstration	
A. Emissions Unit 2 (EU-2)	9
B. Emissions Unit 3 (EU-3)	10
C. Emissions Unit 4 (EU-4)	24
D. Emissions Units 5 and 6 (EU-5 & EU-6)	31
E. General Emissions Reduction Credit Requirements.....	33
F. Acid Rain NO _x Program.....	34
G. Acid Rain Program – SO ₂ Allowance Allocations	34
H. 112(r) Accidental Release Requirements	34
I. Stratospheric Ozone Depleting Substances Requirements	34
J. CAIR NO _x Ozone Season Trading	34
K. Premises-Wide General Requirements.....	34
L. Compliance Assurance Monitoring (CAM) Plan	37
Section IV. Compliance Schedule	46
Section V. State Enforceable Terms and Conditions	47
Section VI. Title V Requirements	
A. Submittals to the Commissioner & Administrator	49
B. Certifications [RCSA §22a-174-33(b)]	49
C. Signatory Responsibility [RCSA §22a-174-2a(a)].....	49
D. Additional Information [RCSA §22a-174-33(j)(1)(X), -33(h)(2)]	50
E. Monitoring Reports [RCSA §22a-174-33(o)(1)].....	50
F. Premises Records [RCSA §22a-174-33(o)(2)].....	50
G. Progress Reports [RCSA §22a-174-33(q)(1)]	51
H. Compliance Certifications [RCSA §22a-174-33(q)(2)]	51
I. Permit Deviation Notifications [RCSA §22a-174-33(p)].....	51
J. Permit Renewal [RCSA §22a-174-33(j)(1)(B)]	51
K. Operate in Compliance [RCSA §22a-174-33(j)(1)(C)]	52
L. Compliance with Permit [RCSA §22a-174-33(j)(1)(G)].....	52
M. Inspection to Determine Compliance [RCSA §22a-174-33(j)(1)(M)]	52
N. Permit Availability	52
O. Severability Clause [RCSA §22a-174-33(j)(1)(R)].....	52
P. Need to Halt or Reduce Activity [RCSA §22a-174-33(j)(1)(T)]	52
Q. Permit Requirements [RCSA §22a-174-33(j)(1)(V)].....	52
R. Property Rights [RCSA §22a-174-33(j)(1)(W)].....	52
S. Alternative Operating Scenario Records [RCSA §22a-174-33(o)(3)].....	53
T. Operational Flexibility and Off-Permit Changes [RCSA §22a-174-33(r)(2)].....	53
U. Information for Notification [RCSA §22a-174-33(r)(2)(A)].....	53
V. Transfers [RCSA §22a-174-2a(g)]	53
W. Revocation [RCSA §22a-174-2a(h)].....	53
X. Reopening for Cause [RCSA §22a-174-33(s)].....	54
Y. Credible Evidence	54

Title V Permit

All conditions in Sections III, IV, VI and VII 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, VI and VII 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>
A	Ampere
AC	Alternating Current
AEL	Allowable Emissions Limit
AOS	Alternative Operating Scenario
BTU	British Thermal Unit
CAIR	Clean Air Interstate Rule
CAM	Compliance Assurance Monitoring
CEM	Continuous Emission Monitor
CERCs	Continuous Emission Reduction Credits
CFR	Code of Federal Regulations
CGS	Connecticut General Statutes
CO ₂	Carbon Dioxide
COM	Continuous Opacity Monitoring
DAHS	Data Acquisition and Handling System
DC	Direct Current
DERCs	Discrete Emission Reduction Credits
EU	Emissions Unit
EPA	Environmental Protection Agency
ESP	Electrostatic Precipitator
°F	Degree Fahrenheit
ft ³	Cubic feet
FLER	Full Load Emission Rate
HAP	Hazardous Air Pollutant
HCl	Hydrogen Chloride
Hg	Mercury
hp	Horsepower
hr	Hour
ICR	Information Collection Requests
ISO NE	Independent System Operator- New England
KCFM	Kilo Cubic Feet per Minute
kV	Kilo Volts
lb	Pounds
mA	Milliampere
MATS	Mercury and Air Toxic Standard
min	minute
MMBtu	Millions British Thermal Unit
MW	Megawatts
NO _x	Nitrogen Oxides
NSR	New Source Review
P	Construction Permit/Operating Permit
PM	Particulate Matter
ppmvd	Parts Per Million, Volumetric Dry
R	Registration
RACT	Reasonably Available Control Technology

LIST OF ABBREVIATIONS/ACRONYMS

<i>Abbreviation/Acronym</i>	<i>Description</i>
RCSA	Regulations of Connecticut State Agencies
SIC	Standard Industrial Classification
SO ₂	Sulfur Dioxide
SO _x	Sulfur Dioxides
SOS	Standard Operating Scenario
TAO	Trading Agreement and Order
TBtu	Trillion British Thermal Units
T/R	Transformer/Rectifiers
TSP	Total Suspended Particulate
UST	Underground Storage Tank
V	Voltage
yr	Year

Section I: Premises Information/Description

A. PREMISES INFORMATION

Nature of Business: Electric Generation

Primary SIC: 4911

Facility Mailing Address: 1 Atlantic Street, Bridgeport, CT 06604

Telephone Number: (203) 551-6032

B. PREMISES DESCRIPTION

PSEG Power Connecticut, LLC (PSEG) is an exempt wholesale electric generating facility with its principal place of business in Newark, New Jersey. On December 6, 2002, PSEG purchased from WISVEST- Connecticut, LLC (Wisvest) two fossil fuel-fired electric generating stations, one of which is the Bridgeport Harbor Station (BHS). BHS is located at 1 Atlantic Street, Bridgeport, CT 06604. BHS has been in operation as an electrical generation station since 1957.

There are two operating major-emitting fuel-burning units at the premises. Unit No. 3 is a tangentially fired dual-fuel unit (low sulfur coal and residual oil) equipped with an in-line heater (No. 2 fuel oil fired) that removes excess moisture from coal prior to combustion, and an electrostatic precipitator and a fabric filter baghouse to control particulate emissions. Unit No. 3 utilizes No. 2 fuel oil for startups. Unit No. 4 is a combustion turbine that burns aviation fuel and is used during peak energy demand periods. Unit No. 4 is a registered unit while Unit No. 3 is permitted. The premises also contains Unit No. 2 that is a retired, oil-fired electricity generating unit. While the unit is retired, the PSEG maintains Trading Agreement & Order (TAO) Nos. 8242/M1 and 8187/M1 for Continuous Emission Reduction Credits (CERCS).

PSEG is subject to NO_x RACT, RCSA §22a-174-22 (Control of Nitrogen Oxides Emissions). PSEG has demonstrated compliance with RCSA §22a-174-22 daily limits by performing stack tests for Unit No. 3 while burning coal and No. 6 fuel oil. Stack tests for Unit No. 4 burning Jet Fuel A yielded a NO_x emission level in excess of the regulatory threshold for gas turbines. On April 30, 2010, PSEG entered into TAO Nos. 8301 and 8305 which have since been superseded by TAO Nos. 8330 and 8336, respectively, effective May 28, 2014. The TAOs allow PSEG to use Discrete Emission Reduction Credits (DERCs) for Unit Nos. 3 and 4 to comply with NO_x RACT requirements as appropriate.

PSEG is subject to the CGS §22a-199 for mercury control and Mercury and Air Toxic Standard (MATS), 40 CFR Part 63 Subpart UUUUU. The requirements of CGS §22a-199 and MATS are included in this Title V permit.

PSEG is subject to the Post-2011 Connecticut Ozone Season NO_x Budget Program, RCSA §22a-174-22c. The requirements have been incorporated by reference in the applicable sections of this Title V 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, Trading Agreement and Orders (TAO), Registrations, or Regulations into this Title V permit.

TABLE II.A: EMISSIONS UNITS DESCRIPTION				
Emissions Unit	Emissions Unit Description	Control Unit Description	Monitoring Unit Description	Permit, Order, Registration, or Regulation Number
EU-2	RETIRED Babcock & Wilcox Steam Generator, BHS #2 (170 MW)			TAO No. 8242/M1 TAO No. 8187/M1
EU-3	Combustion Engineering Steam Generator, BHS #3 with in-line heater, and Dense Pack Turbine (410 MW)	Electrostatic Precipitator Fabric Filter Baghouse Low NO _x Concentric Firing System Activated Carbon and Dry Sorbent Injection Systems (Only for Coal Burning)	Teledyne Monitor Labs, Inc. Model 560 Opacity Monitor TECO CEM Model 42i for NO _x 43i for SO _x TECO CEM for CO ₂	P 015-0089 TAO No. 8336 P 015-001-TIV CGS §22a-199 RCSA §22a-174-22c 40 CFR Part 75 40 CFR Part 63 Subpart UUUUU
EU-4	Pratt & Whitney Aircraft FT 4A-8LI Turbo- Jet Gas Turbine Generator, BHS #4 (22 MW)	None	None	R 015-0166 TAO No. 8330
EU-5	Cummins Diesel Fired Pump Engine Model # JN-130-1P SBM86790 (0.69 MMBtu/hr)	None	None	40 CFR Part 63 Subpart ZZZZ
EU-6	Cummins Diesel Fired Pump Engine Model # H6-1P SBM99305 (0.71 MMBtu/hr)	None	None	40 CFR Part 63 Subpart ZZZZ

Section II: Emissions Units Information

B. OPERATING SCENARIO IDENTIFICATION

The Permittee shall be allowed to operate under the following Standard Operating Scenarios (SOS) and Alternative Operating Scenarios (AOS) without notifying the commissioner, provided that such operations are explicitly provided for and described in Table II.B.

TABLE II.B: OPERATING SCENARIO IDENTIFICATION		
Identification of Operating Scenario	Emissions Units Associated with the Scenario	Description of Scenario
SOS	EU-3, EU-4, EU-5, EU-6	<p>EU-3 operates primarily on very low sulfur sub-bituminous coal and higher sulfur bituminous coal and uses No. 2 fuel oil on startup. It is equipped with an in-line heater (No. 2 fuel oil fired) that removes excess moisture from coal prior to combustion. An electrostatic precipitator and fabric filter baghouse control particulate emissions. A low NO_x burner controls NO_x emissions. Activated carbon and dry sorbent injection systems, both upstream of the fabric filter baghouse, control Hg and HCl emissions, respectively, during coal burning.</p> <p>EU-4 burns only aviation fuel, Jet Fuel A. The unit is used to generate electric power only when electric energy supply and demand requires.</p> <p>EU-5 is a 98 hp diesel fired emergency pump engine located at Tank Farm Foam House.</p> <p>EU-6 is a 101 hp diesel fired emergency pump engine located near EU-4.</p>
AOS	EU-3	<p>EU-3 operates using residual oil and uses No. 2 fuel oil on startup. An electrostatic precipitator and fabric filter baghouse control particulate emissions. A low NO_x burner controls NO_x emissions.</p>

Section III: Applicable Requirements and Compliance Demonstration

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

A. EMISSIONS UNIT 2 (EU-2) – RETIRED - Babcock & Wilcox Steam Generator, BHS #2

1. NO_x Continuous Emission Reduction Credits (CERCs)

a. Limitation or Restriction

- i. The Permittee has 200 tons of NO_x CERCs. [TAO No. 8242, A.6]
- ii. Any NO_x allowances allocated to the emissions unit and received by the Permittee pursuant to RCSA §22a-174-22b shall not be eligible for conversion to offset credits. In addition, any portion of the 200 tons per year of NO_x CERCs may be used as offset credits in the State of Connecticut in accordance with RCSA §22a-174-3a. Any portion of the 200 tons per year of NO_x CERCs may be transferred and used as offset credits outside of the State of Connecticut provided that:
[TAO No. 8242 Modification 1, B.5]
 - (A) Such transfer is performed in a manner that is allowable in accordance with the document *Improving Air Quality with Economic Incentive Programs* (EPA-492/R-01-0010); and
 - (B) Such transfer and use is subject to the approval of the affected state.

b. Monitoring Requirements

The Permittee shall maintain records for the unit showing its retired status.

c. Record Keeping Requirements

The Permittee shall retain records and supporting documentation as described in this Title V permit for a minimum of five years, commencing on the date such records were created. [TAO No. 8242, B.4]

d. Reporting Requirements

- i. No later than March 1 of every year, the Permittee shall include with the Annual Emission Statement provided to the commissioner, a record of each sale or other transfer, and use of any and all of the 200 tons of CERCs until all such CERCs have been used. The permittee shall also include actual NO_x emissions from the emissions unit. These reports shall be on a form prescribed by the commissioner. [TAO No. 8242, B.3]
- ii. The Permittee shall provide all records to the commissioner within 30 days of receipt of a written request from the commissioner. [TAO No. 8242, B.4]

Section III: Applicable Requirements and Compliance Demonstration

B. EMISSIONS UNIT 3 (EU-3) - Combustion Engineering Steam Generator, BHS #3 with in-line heater, and Dense Pack Turbine (SOS, AOS)

1. NO_x

a. Limitation or Restriction

- i. The Allowable Emission Limit (AEL) of NO_x shall not exceed 0.25 lb/MMBtu of heat input when operating on residual oil (24-hour averaging time), except when DERCs or Allowances are used by the unit for compliance. [TAO No. 8336, Table 1; RCSA §22a-174-22(e), Table 22-1; P 015-0089]
- ii. The AEL of NO_x shall not exceed 0.20 lb/MMBtu of heat input when operating on No. 2 fuel oil (24-hour averaging time) except when DERCs are used by the unit for compliance. [TAO No. 8336, Table 1]
- iii. The AEL of NO_x shall not exceed 0.38 lb/MMBtu of heat input when operating on coal (24-hour averaging time) except when DERCs are used by the unit for compliance. [TAO No. 8336, Table 1; RCSA §22a-174-22(e), Table 22-1; P 015-0089]
- iv. During the period from October 1 through April 30 (non-ozone season), inclusive, each year, the AEL of NO_x shall not exceed 0.15 lb/MMBtu on coal, No. 6 fuel oil, and/or No. 2 fuel oil except when DERCs are used for compliance. [RCSA §§22a-174-22(d)(2) and (e)(3)]

b. Monitoring and Testing Requirements

- i. The Permittee shall calibrate, maintain, operate, and certify a CEM for NO_x. The CEM shall be calibrated, operated and tested in accordance with RCSA §22a-174-4(c)(4) and with the applicable performance specifications and quality assurance requirements specified in 40 CFR Part 75, since the source is subject to 40 CFR Part 75. [RCSA §22a-174-4(c)(4); RCSA §22a-174-22(k)(3)]
- ii. The performance or quality assurance testing of the CEM shall be conducted in accordance with a testing protocol approved by the commissioner. [RCSA §22a-174-22(k)(3)]
- iii. The averaging times for the emission limitations with the use of the CEM shall be 24 hours, measured from midnight at the beginning of any day to midnight of the end of that day and shall include all periods of operation, including startup, shutdown, and malfunction. [RCSA §22a-174-22(k)(4)]
- iv. The Permittee shall use data recorded by the CEM and any other records and reports to determine compliance with NO_x emissions. [RCSA §22a-174-22(l)(7)]
- v. The Permittee shall comply with RCSA §22a-174-22 in accordance with the submitted and approved compliance plan to the commissioner. [RCSA §22a-174-22(m)]

c. Record Keeping Requirements

- i. The Permittee shall keep monthly and annual records of fuel use, continuous emissions monitoring, and operating hours. [RCSA §22a-174-22(l)(1)(C)]
- ii. The Permittee shall keep records of all tune-ups, repairs, replacement of parts and other maintenance done on the unit. [RCSA §22a-174-22(l)(1)(D)]

Section III: Applicable Requirements and Compliance Demonstration

- iii. The Permittee shall keep copies of all documents submitted to the commissioner pursuant to RCSA §22a-174-22. [RCSA §22a-174-22(1)(1)(E)]
- iv. The Permittee shall keep all charts, electronically stored data, and printed records produced by the NO_x CEM. [RCSA §22a-174-22(1)(1)(F)]
- v. The Permittee shall keep procedures for calculating NO_x emission rates. [RCSA §22a-174-22(1)(1)(G)]
- vi. The Permittee shall keep records of the dates, times, and places of all emission testing done on this unit to comply with RCSA §22a-174-22, the persons performing the measurements, the testing methods used, the operating conditions at the time of testing, and the results of such testing. [RCSA §22a-174-22(1)(1)(H)]
- vii. The Permittee shall keep records of all performance evaluations, calibration checks and adjustments on the CEM; a record of maintenance procedures; and all data necessary to complete the quarterly reports required by the commissioner. [RCSA §22a-174-22(1)(1)(I)]
- viii. The Permittee shall maintain reports of all monitoring and test data in accordance with RCSA §22a-174-4(d)(1). [RCSA §22a-174-4(d)(1)]

d. Reporting Requirements

- i. The Permittee shall notify the commissioner in writing at least 30 days prior to conducting any performance or quality assurance testing of any such monitor. [RCSA §22a-174-22(k)(3)]
- ii. The Permittee shall provide all records to the commissioner within 30 days of receipt of a written request from the commissioner. [RCSA §22a-174-4(d)(1)]
- iii. Within 60 days of the completion of certification tests conducted on the CEM, the Permittee shall submit a written report of the results of such testing to the commissioner. [RCSA §22a-174-22(1)(3)]

2. NO_x Discrete Emission Reduction Credits (DERCs)

a. Limitation or Restriction

- i. Pursuant to RCSA §22a-174-22(j), the Permittee intends to acquire and generate approved NO_x DERCs until May 31, 2017 at the facility. [TAO No. 8336, A.7]
- ii. The Permittee shall use the actual 24-hour average emissions rate measured by CEMs for the purposes of calculating Actual DERCs generated and/or Actual DERCs required. [TAO No. 8336, A.8]
- iii. The permittee shall operate this emissions unit while firing or co-firing the lowest NO_x emitting fuel type or combination of fuel types that the emissions unit is physically able to burn to achieve the emissions unit's rated electricity output, according to the ISO NE, and that the Permittee is authorized to burn in accordance with Departmental registration or applicable regulation. [TAO No. 8336, B.4]

Section III: Applicable Requirements and Compliance Demonstration

- iv. During the Ozone Season, the Permittee may operate the emissions unit on fuels that result in higher emissions of NO_x, if either: [TAO No. 8336, B.5]
 - (A) the availability of fuel oil that complies with the lowest NO_x emitting is inadequate to meet the needs of residential, commercial and industrial users in this state and that such inadequate supply constitutes an emergency;
 - (B) the supply of gaseous fuels to the emissions unit is interrupted, otherwise unavailable due to inadequate supply within the supply area, or curtailed in accordance with an interruptible supply agreement between the Permittee and the gaseous fuel supplier; or
 - (C) the emissions 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.
- v. The Permittee will acquire NO_x DERCs monthly on an as-needed basis, as determined by actual NO_x emissions in the event that the 24-hour average of actual NO_x emissions exceeds the NO_x emission limitations of RCSA §22a-174-22(e) and during the period from October 1 through April 30, inclusive, in the event that the non-ozone season emission rate exceeds the emission rate specified in RCSA §22a-174-22(e)(3). [TAO No. 8336, B.6 and B.8]
- vi. Until May 31, 2017 for the ozone season the Permittee may obtain approval of actual reductions NO_x emissions, generated by operating the unit at a rate which is below 0.38 lb/MMBtu of heat input when operating on coal, 0.25 lb/MMBtu of heat input when operating on No. 6 fuel oil, and 0.20 lb/MMBtu of heat input when operating on No. 2 fuel oil, for use as DERCs. [TAO No. 8336, B.7]
- vii. Starting on October 1, 2013, and during the period from October 1 through April 30, inclusive, each year until May 31, 2017, the Permittee may only obtain approval of actual reductions in NO_x emissions, generated by operating the unit at a rate which is below 0.15 lb/MMBtu during the non-ozone season on coal, No. 6 fuel oil, and/or No. 2 fuel oil. [TAO No. 8336, B.9]
- viii. The commissioner, in accordance with the provisions of TAO No. 8336, pursuant to RCSA §22a-174-22(d)(3), hereby allows the Permittee to comply with RCSA §22a-174-22(d)(1) through use of DERCs trading. [TAO No. 8336]
- ix. DERCs generation shall be determined in accordance with TAO No. 8336, Condition B.7 (for ozone season only) and Condition B.9 (for non-ozone season). DERCs generated by the Permittee may be held by the Permittee or transferred to other persons in accordance with TAO No. 8336. [TAO No. 8336]
- x. No later than May 31, 2017, with respect to the emissions units identified in TAO No. 8336 and/or its subsequent modifications, the Permittee shall comply with the requirements of RCSA §§22a-174-22(d)(1) and 22(d)(2)(A). [TAO No. 8336]

b. Monitoring and Testing Requirements

- i. The Permittee may use emissions trading until the earlier of: [TAO No. 8336, B.1]
 - (A) May 31, 2017;

Section III: Applicable Requirements and Compliance Demonstration

- (B) The commissioner issues written notice to the Permittee stating that the Permittee are no longer allowed to use emissions trading due to the Permittee's violation of any provision of this Title V permit and TAO No. 8336; 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.
- ii. The Permittee shall obtain and use sufficient DERCs in such a manner as to comply with the requirements of this Title V permit and TAO No. 8336. All DERCs used during the Ozone Season for the emissions unit, shall have been generated during an Ozone Season. [TAO No. 8336, B.2]
- iii. DERCs shall only remain valid for five calendar years from the year of the generation of such DERCs. DERCs older than five calendar years from their creation are not valid for use for compliance with RCSA §22a-174-22. Ozone season DERCs generated by a CAIR NO_x Ozone Season Unit during 2013 shall remain valid until May 31, 2017. [TAO No. 8336, B.3]
- iv. On the first day of each calendar month, the Permittee shall possess a quantity of DERCs that equals or exceeds the quantity of Actual DERCs required in that month. Compliance shall be determined as follows: [TAO No. 8336, B.6]

- (A) Before the first day of each month, the Permittee shall estimate DERCs required for such calendar month for each emission unit as follows:

Estimated DERCs required =

$$\{(\text{Estimated fuel use in MMBtu}) \times ((\text{estimated 24-hr average NO}_x \text{ emission rate lb/MMBtu}) - (0.95 \times \text{AEL}))\} \div 2000 \text{ lb/ton}$$

- (B) No later than the twentieth day of each month, the Permittee shall calculate actual DERCs used in the preceding calendar month for the emissions unit as follows:

$$\text{Actual DERCs required} = \Sigma\{(\text{Daily fuel use MMBtu}) \times ((\text{actual 24-hr average emission rate lb/MMBtu}) - (0.95 \times \text{AEL}))\} \div 2000 \text{ lb/ton}$$

For all days in the month where actual 24-hr average emissions rate > AEL

- v. No later than the twentieth day of each month, the Permittee shall calculate actual DERCs generated in the preceding calendar month for as follows: [TAO No. 8336, B.7]

Actual DERCs generated (during ozone season only) =

$$\Sigma\{(\text{Daily fuel use MMBtu}) \times ((\text{AEL}) - \text{actual 24-hr average NO}_x \text{ emission rate lb/MMBtu})\} \div 2000 \text{ lb/ton}$$

For all days in the month where actual 24-hr average NO_x emissions rate < AEL

Section III: Applicable Requirements and Compliance Demonstration

Where: Daily fuel use and actual 24-hr average emission rate shall exclude missing data substituted in accordance with any missing data substitution procedures, including those allowed under RCSA §22a-174-22c and 40 CFR Part 75.

- vi. On the first day of each Non-Ozone Season, the Permittee shall possess a quantity of DERCs that equals or exceeds the quantity of Non- Ozone Season Actual DERCs required for that Non-Ozone Season. Compliance shall be determined as follows: [TAO No. 8336, B.8]

- (A) Before the first day of each Non-Ozone Season, the Permittee shall estimate DERCs required for that Non- Ozone Season for the emissions unit based an emission limit of 0.15 lb/MMBtu as follows:

Estimated Non-Ozone Season DERCs required =

$$\{(\text{Estimated Non-Ozone Season fuel use in MMBtu}) \times ((\text{estimated average NO}_x \text{ Emission Rate lb/MMBtu}) - (0.95 \times 0.15 \text{ lb/MMBtu}))\} \div 2000 \text{ lb/ton}$$

- (B) No later than 30 days after the end of each Non-Ozone Season, the Permittee shall calculate Actual Non-Ozone Season DERCs used during that Non-Ozone Season for each emission unit as follows:

Actual Non-Ozone Season DERCs required =

$$\{(\text{Actual Non-Ozone Season fuel use in MMBtu}) \times ((\text{Non-Ozone Season Average Actual NO}_x \text{ Emission Rate lb/MMBtu}) - (0.95 \times 0.15 \text{ lb/MMBtu}))\} \div 2000 \text{ lb/ton} - \sum \text{DERCs required for all months of the Non-Ozone Season calculated}$$

- vii. No later than 30 days after the end of the Non-Ozone Season, the Permittee shall calculate actual DERCs generated during the Non-Ozone Season from the emissions unit as follows: [TAO No. 8336, B.9]

$$\text{Actual Non Ozone Season DERCs generated} = \{ \text{Non-Ozone Season fuel use (MMBtu)} \times [(0.15 \text{ lb/MMBtu}) - \text{Non-Ozone Season average emission rate (lb/MMBtu)}] \} \div 2000 \text{ lb/ton}$$

Where:

Non-Ozone Season Average Emission Rate < 0.15 lb/MMBtu; and

Non-Ozone Season fuel use and Non-Ozone Season Average emissions rate shall exclude data substituted in accordance with any missing data substitution procedures, including those allowed under RCSA §22a-174-22c and 40 CFR Part 75.

- viii. The Permittee shall retire ten percent of all DERCs (tons) generated by the emissions unit, prior to use, and shall deduct them from any calculations of DERCs available and possessed by the Permittee to assure a benefit to the environment. [TAO No. 8336, B.10]
- ix. On or before January 31 of each calendar year, the Permittee shall deduct a quantity of DERCs from the current balance of DERCs possessed by the Permittee such that the total is equal to 0 or the sum of (Actual DERCs required determined for the preceding calendar year) – 0.9 x (Actual DERCs generated determined in the preceding calendar year), whichever is greater. [TAO No. 8336, B.11]

Section III: Applicable Requirements and Compliance Demonstration

- x. Not more than 90 days after the completion of the Non-Ozone Season, the Permittee shall deduct a quantity of DERCs from the current balance of DERCs possessed by the Permittee such that the total is equal to 0 or the total of (Actual Non-Ozone Season DERCs required for the most recently completed Non-Ozone Season) – 0.9 x (Actual Non-Ozone Season DERCs generated in the most recently completed Non-Ozone Season), whichever is greater. [TAO No. 8336, B.12]
- xi. Not more than two years from May 28, 2014, the Permittee shall perform maintenance and inspection of the emissions unit. Such maintenance and inspection shall include, but not be limited to, the following: [TAO No. 8336, B.14]
 - (A) 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;
 - (B) 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; and
 - (C) Measure the operating parameters of the emissions unit used to determine that the emissions 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. By the close of each calendar day, the Permittee shall record the actual 24-hour average NO_x emission rate, 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. The actual NO_x emission rate shall be recorded within the DAHS in accordance with 40 CFR Part 75. The Permittee shall record the actual fuel type and the actual quantity of each type of fuel, in units of volume per day or MMBtu, for each fuel used on an operating day. [TAO No. 8336, B.15.a]
- ii. 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. [TAO No. 8336, B.15.b]
- iii. On or before the first day of each calendar month, the Permittee shall record the number of DERCs and corresponding serial numbers, vintages, purchase/sales dates, and seller/buyer for all DERCs purchased or sold during the preceding calendar month. [TAO No. 8336, B.15.c]
- iv. On or before the first day of each calendar month, the Permittee shall record the estimated DERCs required for that calendar month. [TAO No. 8336; B.15.d]
- v. On or before the twentieth calendar day of each calendar month, the Permittee shall record the Actual DERCs required for the preceding calendar month. [TAO No. 8336, B.15.e]
- vi. On or before the twentieth calendar day of each calendar month, the Permittee shall record the Actual DERCs generated for the preceding calendar month and DERCs retired for environmental benefit. [TAO No. 8336, B.15.f]

Section III: Applicable Requirements and Compliance Demonstration

- vii. On or before January 31 of each calendar year, the Permittee shall record the quantity of DERCS deducted for the preceding year. Such records shall include the serial number and vintage of each DERC deducted from the Permittee's current balance. [TAO No. 8336, B.15.g]
- viii. Not more than 90 days after the completion of each Non-Ozone Season, the Permittee shall record the Non-Ozone Season Average NO_x emission rate, the quantity of DERCS possessed on the first day of the Non-Ozone Season, the quantity of DERCS deducted, the quantity of DERCS generated during the Non-Ozone Season, and the quantity of Non-Ozone Season DERCS generated during the Non-Ozone Season and retired for environmental benefit. [TAO No. 8336, B.15.h]
- ix. For each month of the Ozone season, the Permittee shall maintain records attesting to the fact that any DERCS deducted from its balance satisfy the requirements of Section III.B.2.b.iii of this Title V permit. Generator certification of this fact shall be sufficient. [TAO No. 8336, B.15.i]
- x. On each day during the ozone season that the Permittee operate the emissions unit on fuels that result in higher emissions of NO_x, the Permittee shall make and keep records of all emissions unit operation, including copies of any written correspondence from the Permittee's fuel supplier detailing the duration and circumstances of the inadequate fuel oil supply or interruption of gaseous fuel supply to the emissions units. [TAO No. 8336, B.15.j]
- xi. The Permittee shall retain records and supporting documentation required by this Title V permit for a minimum of five years, commencing on the date such records were created. [TAO No. 8336, B.16]
- xii. The Permittee shall make and keep records including, but not limited to, the following:
[TAO No. 8336, B.14.d]
 - (A) Demonstration that any maintenance, tune-up, and/or inspection activity performed on the emissions 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 emissions unit;
 - (C) The name, title and affiliation of the person conducting any maintenance, tune-up, and/or inspection activity performed on the emissions unit; and
 - (D) The operating parameters of the emissions unit used to determine that the emissions 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 in accordance with this Title V permit and TAO No. 8336.

d. Reporting Requirements

No later than March 1 of every year, the Permittee shall submit to the commissioner a written report containing copies of all of the records required pursuant to Sections III.B.2.c.i to vii, ix, x of this Title V permit. Not later than July 30 of each calendar year, the Permittee shall submit a written report containing copies of all records required pursuant to Section III.B.2.c.viii of this Title V permit. 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. [TAO No. 8336, B.17]

Section III: Applicable Requirements and Compliance Demonstration

3. SO_x

a. Limitation or Restriction

The sulfur dioxide emission limitation in effect for operation with coal is no greater than 1.1 lb/MMBtu of heat input (24 hour average) and no greater than 0.33 lb/MMBtu on a calendar quarter basis. [RCSA §22a-174-19a(e) {state-only enforceable}]

b. Monitoring and Testing Requirements

Compliance with the SO_x limit of 1.1 lb/MMBtu of heat input (24-hour average) and 0.33 lb/MMBtu of heat input (calendar quarter average) when burning coal shall be demonstrated through direct measurement of SO₂, by the CEM. [P 015-0089]

c. Record Keeping Requirements

- i. The Permittee shall maintain records of all lots of coal shipped, all lots of coal received at the Bridgeport Harbor Station, and the use of coal from inventory at Bridgeport Harbor Station, in tons per day burned. [P 015-0089]
- ii. The Permittee shall keep all charts, electronically stored data, and printed records produced by the SO₂ CEM. [RCSA §22a-174-4(d)(1)]
- iii. The Permittee shall maintain reports of all monitoring and test data in accordance with RCSA §22a-174-4(d)(1). [RCSA §22a-174-4(d)(1)]

d. Reporting Requirements

Quarterly reports shall be submitted by the Permittee to the commissioner for each calendar quarter within 30 days following the end of each quarter. Such reports shall include a summary of any exceedances of sulfur dioxide emission limitations as compiled from the stack monitoring device. [P 015-0089]

4. Mercury (Hg)

a. Limitation or Restriction

- i. For coal burning, the Permittee shall meet a Hg emissions rate of equal to or less than 0.6 lb/TBtu, or meet a Hg emissions rate equal to 90% reduction of Hg from the measured inlet conditions, whichever emissions rate is more readily achievable by the unit. [P 015-0089; CGS §22a-199(b)(1) {State Enforceable Only}]
- ii. The Hg emissions shall not exceed 0.0025 lb/hr and 21.76 lb/yr on and after 2010. The mercury mass emission cap of 21.76 lb/yr shall be determined on a calendar year. [P 015-0089]
- iii. The mass limit of 21.76 lb/yr (or an established alternative emissions limit) shall include emissions during periods of startup, shutdown, and malfunction. [P 015-0089]

Section III: Applicable Requirements and Compliance Demonstration

b. Monitoring and Testing Requirements

- i. For coal burning, the Permittee shall: (1) Meet a Hg emissions rate of equal to or less than 0.6 lb/TBtu, or (2) meet a Hg emissions rate equal to a 90% reduction of Hg from the measured inlet conditions for the affected unit, whichever emissions rate is more readily achievable by such affected unit, as determined by the Permittee of such affected unit.
[CGS §22a-199(b)(1) {State Enforceable Only}]
- ii. For coal burning, any stack test used to demonstrate compliance with the Hg emissions rate requirements of this Title V permit or used in the establishment or compliance with an alternative emissions limit, shall be based on the average of the stack tests conducted during the two most recent stack tests for an affected unit and shall be conducted on a calendar year basis in accordance with the EPA's Method 29 for the determination of metal emissions from stationary sources, as set forth in 40 CFR Part 60 Appendix A, as amended from time to time, or any other alternative method approved by the EPA or the commissioner. Such stack tests shall be conducted while combusting coal or coal blends that are representative of the coal or coal blends combusted at such affected unit during the applicable time period represented by such stack test.
[CGS §22a-199(b)(3)(A) {State Enforceable Only}]
- iii. For coal burning, if the commissioner determines that CEM for Hg in flue gases are commercially available and can perform in accordance with National Institute of Technology Standards, or other methodology approved by the EPA, the Permittee of the affected unit shall properly install and operate such CEM and shall not be required to conduct stack testing on a calendar quarter basis. When reporting compliance with the Hg emissions rate requirement of this Title V permit, as applicable, the Permittee of an affected unit shall use an average of the CEM data recorded at such affected unit during the most recent calendar year.
[CGS §22a-199(b)(3)(B) {State Enforceable Only}]
- iv. For coal burning, the provisions of CGS §22a-174-199, when implemented by the commissioner, shall not suspend any underlying procedures or requirements as set forth in RCSA §22a-174-3(n).
[CGS §22a-199(b)(5) {State Enforceable Only}]
- v. On or before July 1, 2012, the commissioner shall conduct a review of the mercury emission limits applicable to all affected units in the state. On or after July 1, 2012, the commissioner may adopt regulations, imposing mercury emission limits that are more stringent than such emissions requirements provided for in this Title V permit. [CGS §22a-199(c) {State Enforceable Only}]
- vi. Stack testing frequency for Hg shall revert back to calendar quarter basis if any annual stack test demonstrates failure to comply with the Hg emissions rate set forth in this section.
[Public Act No. 13-58]

c. Record Keeping Requirements

- i. The Permittee shall keep records of the daily average net electrical output of the unit. [P 015-0089]
- ii. All records shall be kept on the premises for a period of five years from the date such data and information was obtained. Such records and reports shall be available for inspection at reasonable hours by the commissioner or the Administrator. [P 015-0089]

Section III: Applicable Requirements and Compliance Demonstration

d. Reporting Requirements

For coal burning, the Permittee of the affected unit shall, at the required frequency, report to the commissioner the results of any stack test or average of the continuous emission monitor data, as applicable, used to demonstrate compliance with the provisions of this subsection. Such reports shall be submitted on such forms as may be prescribed by the commissioner. [CGS §22a-199(b)(4)]

5. TSP

a. Limitation or Restriction

- i. The TSP emissions shall not exceed 0.06 lb/MMBtu of heat input when operating on coal. [P 015-0089; RCSA §22a-174-18(e)(1)]
- ii. The TSP emissions shall not exceed 0.14 lb/MMBtu of heat input when operating on residual oil. [P 015-0089; RCSA §22a-174-18(e)(2)(A)]
- iii. The Permittee shall not cause or allow the discharge of visible emissions near ground level outside the property boundaries and in such a manner as to cause a nuisance. [P 015-0089]

b. Monitoring and Testing Requirements

Compliance with the particulate emission limitation shall be achieved with the use of an electrostatic precipitator and/or the pulse-jet fabric filter baghouse. [P 015-0089]

c. Record Keeping Requirements

The Permittee shall keep monthly and annual records of all fuels used. [RCSA §22a-174-4(d)(1)]

d. Reporting Requirements

The Permittee shall provide all records to the commissioner within 30 days of receipt of a written request from the commissioner. [RCSA §22a-174-4(d)(1)]

6. HCl

a. Limitation or Restriction

On and after April 16, 2015, the Permittee shall meet an emissions rate of equal to or less than 0.0020 pounds of HCl per MMBtu or 0.020 lb/MWh while burning coal. [P 015-0089; 40 CFR §63.9991(a)(1)]

b. Monitoring and Testing Requirements

- i. The Permittee shall demonstrate that compliance has been achieved, by conducting the required performance tests and other activities, no later than 180 days after April 16, 2015. [40 CFR §63.9984(f)]

Section III: Applicable Requirements and Compliance Demonstration

- ii. For coal burning, to demonstrate continuous compliance with the HCl limit, the Permittee shall utilize CEMS for HCl or perform a stack test every calendar quarter. The Permittee may skip performance testing in those quarters during which less than 168 unit operating hours occur, except that a stack test must be conducted at least once every calendar year. If utilizing CEMS for compliance, the Permittee shall use all quality-assured hourly data recorded by the CEMS and other required monitoring systems to calculate the arithmetic average emissions rate in units of the standard on a continuous 30-boiler operating day rolling average basis, updated at the end of each new boiler operating day. [40 CFR §§63.10021(b) and (d)(1)]
- iii. For coal burning, any stack test used to demonstrate compliance with the HCl limit shall be conducted in accordance with the EPA's Method 26 or 26A for the determination of HCl or hydrogen halide/halides emissions from stationary sources, as set forth in 40 CFR Part 60, Appendix A, as amended from time to time, or any other alternative method approved by the EPA or the commissioner. Such stack tests shall be conducted while combusting coal or coal blends that are representative of the coal or coal blends combusted at such affected unit during the calendar quarter represented by such stack test. [40 CFR §63.10007]

c. Record Keeping Requirements

- i. The Permittee shall keep records of the monthly coal used by the unit, including the type(s) of coal and amount(s) used. [40 CFR §63.100032(d)(1)]
- ii. All records shall be kept on the premises for a period of five years from the date such data and information was obtained. Such records and reports shall be available for inspection at reasonable hours by the commissioner or the Administrator. [P 015-0089]

d. Reporting Requirements

For coal burning, the Permittee must submit to the commissioner and the Administrator semiannual compliance reports covering reporting periods from January 1 through June 30 and from July 1 through December 31 postmarked or submitted electronically no later than July 31 or January 31, respectively. [40 CFR §63.10031(b)]

7. Opacity

a. Limitation or Restriction

- i. The Permittee shall not exceed the following visible emissions limits except as provided in RCSA §22a-174-18(j): [RCSA §§22a-174-18(b)(2)(A) & (B)]
 - (A) 20% opacity during any six-minute block average; or
 - (B) 40% opacity during any one-minute block average.

b. Monitoring and Testing Requirements

The Permittee shall calibrate, maintain, operate, and certify a CEM for opacity. The CEM shall be calibrated, operated and tested in accordance with RCSA §§22a-174-4(c)(3) & (c)(4) and with the requirements specified in 40 CFR Part 60 Subpart A, Appendix B and Appendix F, as may be amended from time to time. [RCSA §§22a-174-4(c)(3) & (c)(4)]

Section III: Applicable Requirements and Compliance Demonstration

c. Record Keeping Requirements

The Permittee shall keep all charts, electronically stored data, and printed records produced by the opacity CEM. [RCSA §22a-174-4(d)(1)]

d. Reporting Requirements

Quarterly reports shall be submitted by the Permittee to the commissioner for each calendar quarter within 30 days following the end of each quarter. Such reports shall include a summary of any exceedances of stack opacity limitations as compiled from the stack opacity monitoring device. [P 015-0089]

8. Residual Oil

a. Limitation or Restriction

- i. The firing rate of the fuel shall not exceed 27,517 gallons/hour. [P 015-0089]
- ii. Except as authorized in writing by the commissioner in accordance with RCSA §22a-174-19a, the emissions unit shall comply with one of the following sulfur dioxide emission standards: (i) the sulfur content of the residual oil shall be equal to or less than 0.3% sulfur, by weight (dry basis); (ii) the average SO₂ emission rate shall be equal to or less than 0.33 pounds SO₂ / MMBtu for each calendar quarter; or (iii) the average emission rate shall be equal to or less than 0.3 pounds SO₂ / MMBtu calculated for each calendar quarter, if the Permittee averages the emissions from two or more emissions units at the premises. If the Permittee complies with (ii) or (iii) above, the sulfur content of the residual oil shall not exceed 1.0% by weight (dry basis). [P 015-0089; RCSA §22a-174-19a(e) {state-only enforceable}]

b. Monitoring and Testing Requirements

The Permittee shall monitor monthly and annual fuel consumption. [TAO No. 8336]

c. Record Keeping Requirements

The Permittee shall keep monthly and annual records of fuel consumption. [P 015-0089; TAO No. 8336]

d. Reporting Requirements

The Permittee shall provide all the fuel records specified in this Title V permit to the commissioner within 30 days of receipt of a written request from the commissioner. [RCSA §22a-174-4(d)(1)]

9. No. 2 Fuel Oil

a. Limitation or Restriction

- i. The firing rate of the fuel shall not exceed 27,517 gallons/hour. [P 015-0089]
- ii. The sulfur content of the fuel shall not exceed 0.3% by weight (dry basis). [CGS §16a-21a]

Section III: Applicable Requirements and Compliance Demonstration

b. Monitoring and Testing Requirements

The Permittee shall monitor monthly and annual fuel consumption. [P 015-0089]

c. Record Keeping Requirements

The Permittee shall keep monthly and annual records of fuel consumption. [P 015-0089]

d. Reporting Requirements

The Permittee shall provide all the fuel records specified in this Title V permit to the commissioner within 30 days of receipt of a written request from the commissioner. [RCSA §22a-174-4(d)(1)]

10. Coal, Fugitive Emissions from Coal and Ash Handling, Storage, and Processing (SOS, AOS)

a. Limitation or Restriction

- i. The firing rate of the coal shall not exceed 230 tons/hour @ 400 MW net output, as averaged over each calendar day. [P 015-0089]
- ii. The sulfur content of the coal shall not exceed 1.0%. [P 015-0089; RCSA §22a-174-19(a)(2)(i)]

b. Monitoring and Testing Requirements

- i. The Permittee shall monitor monthly and annual coal consumption. [P 015-0089]
- ii. The Permittee shall maintain records of all lots of coal shipped, all lots of coal received at Bridgeport Harbor Station, and the use of coal from inventory, in tons per day burned, at Bridgeport Harbor Station. [P 015-0089]
- iii. The Permittee shall implement a dust control plan concerning the handling, storage, and processing of coal sufficient to cause compliance with RCSA §22a-174-18, Control of particulate matter and visible emissions, to be achieved at all times. The plan may include, but is not limited to, such dust control measures and techniques as the use of enclosures, vacuum enclosure collection systems and filters, specialized loading procedures and transport techniques, spray devices and surfactant applications, or any other methods necessary to assure compliance. [P 015-0089]
- iv. The commissioner and/or Administrator and their agents shall have a right to make on-site, unscheduled inspection visits at the Bridgeport Harbor Station for the purpose of taking coal samples, examining and copying records, reports, and other data, and determining whether the unit is being operated in compliance with all applicable environmental requirements. [P 015-0089]
- v. The Permittee shall operate the facility in accordance with the dust control plan on site. [P 015-0089]

c. Record Keeping Requirements

- i. The Permittee shall maintain records of all lots of coal shipped and all lots of coal received at the premises. [RCSA §22a-174-4(d)(1)]

Section III: Applicable Requirements and Compliance Demonstration

- ii. The Permittee shall maintain the daily use of coal from inventory at the premises in tons per day burned. [RCSA §22a-174-4(d)(1)]
- iii. The Permittee shall maintain reports of all monitoring and test data in accordance with RCSA §22a-174-4(d)(1). [RCSA §22a-174-4(d)(1)]

d. Reporting Requirements

- i. Quarterly reports shall be submitted by the Permittee to the commissioner for each calendar quarter within 30 days following the end of each quarter. Such reports shall include a summary of coal burned on a daily basis during the reporting period. [P 015-0089]
- ii. The Permittee shall provide all the coal records to the commissioner within 30 days of receipt of a written request from the commissioner. [RCSA §22a-174-4(d)(1)]
- iii. The Permittee shall provide all records concerning implementation of the fugitive emissions plan to the commissioner within 30 days of receipt of a written request from the commissioner. [RCSA §22a-174-4(d)(1)]

11. Operating Load

a. Limitation or Restriction

- i. The operation of the unit with coal shall be restricted to a level that produces no greater than 400 MW (net output, daily average). [P 015-0089]
- ii. The unit shall operate at the rated capacity of up to 410 MW (net output, daily average) when fired on fuel oil. [P 015-0089]

b. Monitoring and Testing Requirements

The Permittee shall monitor the maximum daily average heat input rate by recording the net electrical output whenever coal is being fired, no matter whether it is a coal blend or 100 percent sub-bituminous coal. The net electrical output when firing coal shall not exceed 400 MW, daily average. When firing oil, the net electrical output shall not exceed 410 MW, daily average. [P 015-0089]

c. Record Keeping Requirements

The Permittee shall maintain records of the daily average net electrical output of the unit. [P 015-0089]

d. Reporting Requirements

The Permittee shall submit to the commissioner the maximum operating level recorded for the unit, within 30 days of receipt of a written request from the commissioner. [RCSA §22a-174-4(d)(1)]

Section III: Applicable Requirements and Compliance Demonstration

C. EMISSIONS UNIT 4 (EU-4) - Pratt & Whitney Aircraft FT 4A-8LI Turbo- Jet Gas Turbine Generator, BHS #4 (SOS)

1. NO_x

a. Limitation or Restriction

- i. The Permittee shall comply during the operation of the unit with a NO_x Full Load Emissions Rate (FLER) of 0.73 lb/MMBtu of heat input when operating on other oil (24-hour averaging time). [TAO No. 8330, Table 1]
- ii. The AEL of NO_x shall not exceed 75 ppmvd of heat input when operating, except when DERCs are used by the unit for compliance. [TAO No. 8330, Table 1]
- iii. During the period from October 1 through April 30, inclusive, each year, the NO_x emissions shall not exceed 0.15 lb/MMBtu except when DERCs are used for compliance. [RCSA §22a-174-22(e)(3)]

b. Monitoring and Testing Requirements

- i. The Permittee shall conduct NO_x emission tests at least once every five years. [RCSA §22a-174-22(k)(1)]
- ii. The emission testing method for NO_x emissions from stationary sources shall be that specified as Method 7 in 40 CFR Part 60. [RCSA §22a-174-5(b)(7)]
- iii. The sampling and emission testing methods as specified in this Title V permit may be modified or adjusted with the written approval of the commissioner as required by the specific sampling conditions or needs and in accordance with good engineering practice, judgment and experience. [RCSA §22a-174-5(d)]
- iv. For the purposes of demonstrating compliance with the NO_x emissions rates specified in this Title V permit, any test shall be performed with the prior approval of the commissioner as to the test method, sampling protocol and sample analysis procedures. The commissioner shall provide forms for obtaining prior approval of testing methods, sampling protocol and sample analysis procedures. [RCSA §22a-174-5(d)]

c. Record Keeping Requirements

- i. The Permittee shall keep monthly and annual records of all fuel used and operating hours. [RCSA §22a-174-22(l)(1)(C)]
- ii. The Permittee shall keep records of all tune-ups, repairs, replacement of parts and other maintenance done on the unit. [RCSA §22a-174-22(l)(1)(D)]
- iii. The Permittee shall keep copies of all documents submitted to the commissioner pursuant to RCSA §22a-174-22. [RCSA §22a-174-22(l)(1)(E)]
- iv. The Permittee shall keep procedures for calculating NO_x emission rates. [RCSA §22a-174-22(l)(1)(G)]

Section III: Applicable Requirements and Compliance Demonstration

- v. The Permittee shall keep records of the dates, times, and places of all emission testing done on this unit, the persons performing the measurements, the testing methods used, the operating conditions at the time of testing, and the results of such testing. [RCSA §22a-174-22(1)(1)(H)]
- vi. The Permittee shall maintain reports of all test data in accordance with RCSA §22a-174-4(d)(1). [RCSA §22a-174-4(d)(1)]

d. Reporting Requirements

The Permittee shall provide all records specified above to the commissioner within 30 days of receipt of a written request from the commissioner. [RCSA §22a-174-4(d)(1)]

2. NO_x Discrete Emission Reduction Credits (DERCs)

a. Limitation or Restriction

- i. It has been determined that the actual NO_x emissions rate from the emissions unit, at times, exceeds the corresponding AEL of NO_x. The Permittee proposes to use the FLER of 0.73 lb/MMBtu of heat input for the purposes of calculating Estimated DERCs required and Actual DERCs required. [TAO No. 8330, A.7]
- ii. The Permittee intends to acquire approved DERCs as needed, in order to meet applicable RACT requirements and the requirements of this Title V permit. [TAO No. 8330, A.5]
- iii. The commissioner, in accordance with the provisions of this Title V permit, and pursuant to RCSA §22a-174-22(j), hereby allows the Permittee to comply with RCSA §22a-174-22 through use of emission reduction trading to achieve the NO_x emission reduction required by RCSA §22a-174-22(d)(1). [TAO No. 8330, A.6]
- iv. For the purposes of compliance with RCSA §22a-174-22, DERCs shall only remain valid for five calendar years from the year of the generation of such DERCs. DERCs older than five calendar years from their creation are not valid for use for compliance with RCSA §22a-174-22. Ozone season DERCs generated by a CAIR NO_x Ozone Season Unit during 2013 shall remain valid until May 31, 2017. [TAO No. 8330, B.3]
- v. During the Ozone Season, the Permittee shall operate the unit while firing or co-firing the lowest NO_x emitting fuel type or combination of fuel types that the unit is authorized to burn in accordance with the registration or applicable regulation. [TAO No. 8330, B.5]
- vi. During the Ozone Season, the Permittee may operate the emissions unit described above on fuels that result in higher emissions of NO_x, if either: [TAO No. 8330, B.6]
 - (A) the availability of fuel oil that complies with the lowest NO_x emitting fuel type or combination of fuel types that the unit is authorized to burn 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 emissions units is interrupted due to inadequate supply or in accordance with an interruptible supply agreement between the Permittee and the gaseous fuel supplier.

Section III: Applicable Requirements and Compliance Demonstration

b. Monitoring and Testing Requirements

- i. The Permittee shall obtain and use sufficient DERCS in such a manner as to comply with the requirements of this Title V permit. [TAO No. 8330, B.2]
- ii. Compliance with the FLER limit of 0.73 lb/MMBtu shall be determined based on the results of emissions testing performed in accordance with RCSA §22a-174-22 or NO_x emissions monitored and recorded by a CEM that was approved by the commissioner and that complies with RCSA §22a-174-4 and either 40 CFR Part 60, Appendix B & Appendix F or 40 CFR Part 75. [TAO No. 8330, B.4]
- iii. On the first day of each calendar month, the Permittee shall possess a quantity of DERCS that equals or exceeds the quantity of Actual DERCS required in that month. Compliance with this requirement shall be determined as follows: [TAO No. 8330, B.7]

- (A) Before the first day of each month, the Permittee shall estimate DERCS required for such calendar month for the emissions unit as follows:

$$\text{Estimated DERCS required (in tons)} = \{(\text{Estimated fuel use in MMBtu}) \times ((\text{FLER lb/MMBtu}) - (0.95 \times \text{AEL}))\} \div 2000 \text{ lb/ton}$$

Where 0.95 is the discount of 5% design margin applied to AEL.

- (B) No later than the twentieth day of each month, the Permittee shall calculate actual DERCS used in the preceding calendar month, as follows:

$$\text{Actual DERCS required (in tons)} = \{(\text{Monthly fuel use MMBtu}) \times ((\text{FLER lb/MMBtu}) - (0.95 \times \text{AEL}))\} \div 2000 \text{ lb/ton}$$

- iv. On the first day of each Non-Ozone Season, the Permittee shall possess a quantity of DERCS that equals or exceeds the quantity of Non- Ozone Season Actual DERCS required for that Non-Ozone Season. Compliance with requirement shall be determined as follows: [TAO No. 8330, B.8]

- (A) Before the first day of each Non-Ozone Season, the Permittee shall estimate DERCS required for that Non-Ozone Season based on the average actual NO_x emission rate from the emissions unit and an emissions limit of 0.15 lb/MMBtu as follows:

Estimated Non-Ozone Season DERCS required =

$$\{(\text{Estimated Non-Ozone Season fuel use in MMBtu}) \times ((\text{FLER lb/MMBtu}) - (0.95 \times 0.15\text{lb/MMBtu}))\} \div 2000 \text{ lb/ton} - \Sigma \text{Estimated DERCS required for all months of the Non-Ozone Season calculated}$$

- (B) No later than 30 days after the end of each Non-Ozone Season, the Permittee shall calculate Actual Non-Ozone Season DERCS used during that Non-Ozone Season as follows:

Actual Non-Ozone Season DERCS required =

$$\{(\text{Actual Non-Ozone Season fuel use in MMBtu}) \times ((\text{FLER lb/MMBtu}) - (0.95 \times$$

Section III: Applicable Requirements and Compliance Demonstration

$0.15\text{lb/MMBtu}} \} \div 2000 \text{ lb/ton} - \Sigma \text{DERCs required for all months of the Non-Ozone Season calculated}$

- v. On or before January 31 of each calendar year, the Permittee shall deduct a quantity of DERCS from the current balance of DERCS possessed by the Permittee such that the total is equal to the sum of Actual DERCS required for the preceding calendar year, rounded up to the nearest whole ton. [TAO No. 8330, B.9]
- vi. Within 90 days of the close of the Non-Ozone Season, the Permittee shall deduct a quantity of DERCS from the current balance of DERCS possessed by the Permittee such that the total is equal to Actual Non-Ozone Season DERCS required for the most recently completed Non-Ozone Season. [TAO No. 8330, B.10]
- vii. The Permittee may only use emissions trading, subject to the provisions of TAO No. 8330, until the date of expiration of the TAO No. 8330. The date of expiration of TAO No. 8330 shall be the earlier of this: [TAO No. 8330; B.1]
 - (A) May 31, 2017;
 - (B) The date upon which the Permittee demonstrate to the commissioner's satisfaction that actual NO_x emissions from the emissions unit, at all times, do not exceed the AEL;
 - (C) The date specified in any written notice from the commissioner stating that the Permittee are no longer allowed to use emissions trading due to the Permittee's violation of any provision of this Title V permit or TAO No. 8330; 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 Regulations; or
 - (2) the issuance of a judgment or court order.
- viii. Not more than two years from May 28, 2014, the Permittee shall perform maintenance and inspection of the emissions unit. Such maintenance and inspection shall include, but not be limited to, the following: [TAO No. 8330, B.11]
 - (A) 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;
 - (B) 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; and
 - (C) Measure the operating parameters of the emissions unit used to determine that the emissions 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.

Section III: Applicable Requirements and Compliance Demonstration

- ix. Violation of an established FLER shall subject the Permittee to make restitution by matching the quantity of emissions (“true up”) caused by the exceedance plus a 100% premium. The true up in tons of DERCs shall be equal to the FLER exceedance in lb/MMBtu, multiplied by the total heat input during the period of noncompliance divided by 2000 lb/ton. If the period of noncompliance is not known, the time period from the completion of the last/previous Department witnessed emission test through the date that FLER compliance is achieved as approved by the commissioner shall be used. [TAO No. 8330, B.16]
 - x. The Permittee shall conduct NO_x emission tests in accordance with RCSA §22a-174-22(k). [TAO No. 8330, B.18]
 - xi. By December 31, 2014, the Permittee shall install, calibrate, maintain and operate a fuel flow meter to continuously monitor fuel feed and heat input to the emission unit. [TAO No. 8330, B.15]
- c. *Record Keeping Requirements*
- i. By the close of each calendar day, the Permittee shall record the actual fuel type and the actual quantity of each type of fuel used in units of volume per day or MMBtu per day for each fuel used by the emissions unit on the preceding day. [TAO No. 8330, B.12.a]
 - ii. 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. [TAO No. 8330, B.12.b]
 - iii. On or before the first day of each calendar month, the Permittee shall record the number of DERCs and corresponding serial numbers, vintages, purchase/sales dates, and seller/buyer for all DERCs purchased or sold during the preceding calendar month. [TAO No. 8330, B.12.c]
 - iv. On or before the first day of each calendar month, the Permittee shall record the estimated DERCs required for that calendar month. [TAO No. 8330; B.12.d]
 - v. On or before the twentieth calendar day of each calendar month, the Permittee shall record the Actual DERCs required for the preceding calendar month. [TAO No. 8330, B.12.e]
 - vi. On or before January 31 of each calendar year, the Permittee shall record the quantity of DERCs deducted for the preceding year. Such records shall include the serial number and vintage of each DERC deducted from the Permittee’s current balance. [TAO No. 8330, B.12.f]
 - vii. Within 90 days of the close of each Non-Ozone Season, the Permittee shall record the Non-Ozone Season average NO_x emission rate for the emissions unit, the quantity of DERCs possessed on the first day of the Non-Ozone Season, and the quantity of DERCs deducted. [TAO No. 8330, B.12.g]
 - viii. For each month of the Ozone season, the Permittee shall maintain records attesting to the fact that any DERCs deducted from its balance satisfy the requirements of Section III.C.2.b.i of this Title V permit. Generator certification of this fact shall be sufficient. [TAO No. 8330, B.12.h]

Section III: Applicable Requirements and Compliance Demonstration

- ix. On each day during the ozone season that the Permittee operate the emissions unit on fuels that result in higher emissions of NO_x, the Permittee shall make and keep records of all emissions unit operation, including copies of any written correspondence from the Permittee's fuel supplier detailing the duration and circumstances of the inadequate fuel oil supply or interruption of gaseous fuel supply to the emissions units. [TAO No. 8330, B.12.i]
- x. The Permittee shall retain records and supporting documentation required by this Title V permit for a minimum of five years, commencing on the date such records were created. [TAO No. 8330, B.13]
- xi. The Permittee shall make and keep records including, but not limited to, the following:
[TAO No. 8330, B.11.d]
 - (A) Demonstration that any maintenance, tune-up, and/or inspection activity performed on the emissions 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 emissions unit;
 - (C) The name, title and affiliation of the person conducting any maintenance, tune-up, and/or inspection activity performed on the emissions unit; and
 - (D) The operating parameters of the emissions unit used to determine that the emissions 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 in accordance with this Title V permit and TAO No. 8330.

d. Reporting Requirements

No later than March 1 of each year the Permittee shall submit to the commissioner, a written report containing copies of all of the records required pursuant to Sections III.C.2.c.i to vi, viii, ix of this Title V permit. Not later than July 30 of each calendar year, the Permittee shall submit a written report containing copies of all records required pursuant to Section III.C.2.c.vii. 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. [TAO No. 8330, B.14]

3. SO_x

a. Limitation or Restriction

The sulfur content of the fuel shall not exceed 0.3% by weight (dry basis). [CGS §16a-21a]

b. Monitoring and Testing Requirements

- i. The Permittee shall verify emissions using fuel analysis on each fuel shipment.
[RCSA §22a-174-19(a)(5)]
- ii. Fuel analysis for the sulfur content of liquid fuels shall be done according to the most current American Society for Testing and Materials methods D 129, D 1552, or D 4294.
[RCSA §22a-174-5(b)(1)]

Section III: Applicable Requirements and Compliance Demonstration

c. Record Keeping Requirements

The Permittee shall maintain annual actual SO₂ emissions. The annual SO₂ emissions shall be calculated using emission factors obtained from stack testing or from the latest version of AP-42 and the fuel usage for the calendar year. [RCSA §22a-174-4(d)(1)]

d. Reporting Requirements

The Permittee shall provide all records to the commissioner within 30 days of receipt of a written request from the commissioner. [RCSA §22a-174-4(d)(1)]

4. TSP

a. Limitation or Restriction

The TSP emissions shall not exceed 0.20 lb/MMBtu of heat input when operating. [RCSA §22a-174-18(e)(2)(D)]

b. Monitoring and Testing Requirements

The Permittee shall calculate annual emissions for the annual emission statements using AP-42 engineering calculations, AP-42 Fifth Edition, Section 3.4. [RCSA §22a-174-4(d)(1)]

c. Record Keeping Requirements

i. The Permittee shall keep monthly and annual records of all fuel used. [RCSA §22a-174-4(d)(1)]

ii. The Permittee shall maintain records of annual actual TSP emissions. The annual TSP emissions shall be calculated using emission factor obtained from stack testing or from the latest version of AP-42 and the fuel usage for the calendar year. [RCSA §22a-174-4(d)(1)]

d. Reporting Requirements

The Permittee shall provide all records to the commissioner within 30 days of receipt of a written request from the commissioner. [RCSA §22a-174-4(d)(1)]

5. Opacity

a. Limitation or Restriction

i. The Permittee shall not exceed the following visible emissions limits:
[RCSA §§22a-174-18(b)(1)(A) & (B)]

(A) 20% opacity during any six-minute block average as measured by 40 CFR Part 60, Appendix A, Reference Method 9; or

(B) 40% opacity as measured by 40 CFR Part 60, Appendix A, Reference Method 9, reduced to a one-minute block average.

Section III: Applicable Requirements and Compliance Demonstration

b. Monitoring and Testing Requirements

The Department retains the right to require stack testing of opacity at any time to demonstrate compliance. If required by the commissioner, the Permittee shall measure opacity using EPA Method 9 stack test. [RCSA §22a-174-5(e)(2)]

c. Record Keeping Requirements

The Permittee shall keep records to show any deviations from the opacity limit. [RCSA §22a-174-4(d)(1)]

d. Reporting Requirements

The Permittee shall provide all records to the commissioner within 30 days of receipt of a written request from the commissioner. [RCSA §22a-174-4(d)(1)]

D. EMISSIONS UNITS 5 and 6 (EU-5 & EU-6) - Cummins Diesel Fired Pump Engines (SOS)

1. Hours of Operation and Fuel Consumed

a. Limitation or Restriction

Any nongaseous fuel consumed by each unit shall not exceed the sulfur content of motor vehicle diesel fuel, as defined in RCSA §22a-174-42. [RCSA §22a-174-4(d)(1)]

b. Monitoring and Testing Requirements

- i. The Permittee shall operate and maintain the units according to the manufacturer's emission-related written instructions or develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the emissions unit in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]
- ii. The Permittee shall minimize the emissions unit's time spent at idle during startup and minimize the emissions unit's startup time to a period needed for appropriate and safe loading of the emissions unit, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup. [40 CFR §63.6625(h)]
- iii. The Permittee shall install a non-resettable hour meter if one is not already installed. [40 CFR §63.6625(f)]
- iv. The Permittee shall change oil and filter every 500 hours of operation or annually for each unit, whichever comes first. [40 CFR Part 63 Subpart ZZZZ, Table 2c]
- v. The Permittee have the option of utilizing an oil analysis program in order to extend the oil change requirement. The oil analysis must be performed at the same every 500 hours of operation or annually for each unit, whichever comes first. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the

Section III: Applicable Requirements and Compliance Demonstration

viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the Permittee is not required to change the oil. If any of the limits are exceeded, the Permittee shall change the oil within two days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the Permittee shall change the oil within two days or before commencing operation, whichever is later. [40 CFR §63.6625(i)]

- vi. The Permittee shall inspect air cleaner every 1,000 hours of operation or annually for each unit, whichever comes first. [40 CFR Part 63 Subpart ZZZZ, Table 2c]
- vii. The Permittee shall inspect all hoses and belts every 500 hours of operation or annually for each unit, whichever comes first, and replace as necessary. [40 CFR Part 63 Subpart ZZZZ, Table 2c]
- viii. The Permittee may operate the emissions unit for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year per unit. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of the emissions unit beyond 100 hours per year per unit. [40 CFR §63.6640(f)(ii)]
- ix. The Permittee may operate the emissions unit for an additional 50 hours per year in non-emergency situations. The 50 hours per year per unit for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 CFR §63.6640(f)(iii)]

c. Record Keeping Requirements

- i. The Permittee shall keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the emissions unit. The analysis program must be part of the maintenance plan for the emissions unit. [40 CFR §63.6625(i)]
- ii. The Permittee shall maintain a copy of each notification and report that is submitted to comply with 40 CFR Part 63 Subpart ZZZZ, including all documentation supporting any Initial Notification or Notification of Compliance Status that was submitted, according to the requirement in 40 CFR §63.10(b)(2)(xiv). [40 CFR §63.6655(a)(1)]
- iii. The Permittee shall keep records of the maintenance conducted on the emissions unit in order to demonstrate that the unit was operated and maintained according to the maintenance plan. [40 CFR §63.6655(e)]
- iv. The Permittee shall keep records of the hours of operation of the emissions unit that is recorded through the non-resettable hour meter. The Permittee shall document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the emissions units are used for demand response operation, the Permittee shall keep records of the notification of the emergency situation, and the time the emissions unit was operated as part of demand response. [40 CFR §63.6655(f)]

Section III: Applicable Requirements and Compliance Demonstration

- v. The Permittee shall keep records in a form suitable and readily available for expeditious review according to 40 CFR §63.10(b)(1). Each record shall be readily accessible in hard copy or electronic form for at least five years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR §63.10(b)(1). [40 CFR §§63.6660(a), (b), & (c)]

d. Reporting Requirements

- i. The Permittee shall provide all records to the commissioner within 30 days of receipt of a written request from the commissioner. [RCSA §22a-174-4(c)(1)]
- ii. The Permittee shall report each instance in which each emission limitation or operating limitation in Table 2c of 40 CFR Part 63 Subpart ZZZZ was not met. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in 40 CFR §63.6650. [40 CFR §63.6640(b)]
- iii. If the emissions unit is operating during an emergency and it is not possible to shut down the emissions unit in order to perform the management practice requirements on the schedule, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. The Permittee shall report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable. [40 CFR Part 63 Subpart ZZZZ, Table 2c, footnote 1]

E. GENERAL EMISSIONS REDUCTION CREDIT REQUIREMENTS

Emissions units 3 and 4 may use or create DERCs for the purpose of Emissions Reduction Trading as provided in Trading Agreement and Orders Nos. 8330 and 8336, as applicable.

When properly documented by the Permittee, and approved by the commissioner, the reductions in NO_x emissions and as computed in accordance with the terms of the applicable Trading Agreement and Order, will conform to the requirements of RCSA §22a-174-22(j)(3) which are state-only enforceable. Specifically, the reductions will be:

Real because they result in a reduction of actual emissions released into the air, net of any consequential increase in actual emissions resulting from shifting demand. The emission reductions are properly measured, recorded and reported.

Quantifiable because they are based on continuous emission monitoring data as applied in an appropriate reliable and replicable protocol, providing the rate and total mass amount of reduction.

Surplus because they are not required by any Connecticut statute or regulation mandated by a current State Implementation Plan and are not currently relied upon in any applicable attainment plan, any reasonable further progress plan or milestone demonstration.

Permanent because the advanced control system is in place and operating and/or the Permittee will use low-sulfur fuel, and an appropriate tracking system is in place to monitor all data required to verify and quantify the creation of DERCs.

Section III: Applicable Requirements and Compliance Demonstration

Enforceable because the DERCs are approved by the commissioner retrospectively after the submission by the Permittee of the seasonal or annual reports (for NO_x) that will document their creation.

F. ACID RAIN NO_x PROGRAM

For Emissions Unit 3 (EU-3)

Pursuant to 40 CFR §76.7(a)(1), the unit is subject to the applicable emission limitation, of 0.40 lb/MMBtu of heat input on an annual basis for tangentially fired boilers.

In addition to the described NO_x compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NO_x compliance plan and requirements covering excess emissions.

G. ACID RAIN PROGRAM – SO₂ ALLOWANCE ALLOCATIONS

SO₂ Allowance Allocation (tons/year) for Units, Under Tables 2, 3, or 4 of 40 CFR Part 73:
[Acid Rain Permit No. 015-001-TIV]

For Emissions Unit 3 (EU-3): For the term of this Title V permit, EU-3 shall have 11,501 Allowances per year.

H. 112(r) ACCIDENTAL RELEASE REQUIREMENTS

Should any of the units, as defined in 40 CFR §68.3, become subject to the accidental release prevention regulations in 40 CFR Part 68, then the Permittee shall submit a risk management plan pursuant to 40 CFR §68.12 by the date specified in 40 CFR §68.10 and shall certify compliance with the requirements of 40 CFR Part 68 as part of the annual compliance certification as required by 40 CFR §70.6(c)(5).

I. STRATOSPHERIC OZONE DEPLETING SUBSTANCES REQUIREMENTS

The Permittee shall comply with the standards for recycling and emissions reduction of products using ozone depleting substances pursuant to 40 CFR Part 82 Subpart F at the premises.

J. CAIR NO_x OZONE SEASON TRADING

Emissions Units 3 and 4 (EU 3 and EU 4) are CAIR NO_x Ozone season units and are 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.

K. 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. Emergency Episode Procedures:** The Permittee shall comply with the procedures for emergency episodes as set forth in RCSA §22a-174-6.

Section III: Applicable Requirements and Compliance Demonstration

3. **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.
4. **Prohibition of Air Pollution:** The Permittee shall comply with the requirement to prevent air pollution as set forth in RCSA §22a-174-9.
5. **Public Availability of Information:** The public availability of information shall apply, as set forth in RCSA §22a-174-10.
6. **Prohibition Against Concealment/Circumvention:** The Permittee shall comply with the prohibition against concealment or circumvention as set forth in RCSA §22a-174-11.
7. **Violations and Enforcement:** The Permittee shall not violate or cause the violation of any applicable regulation as set forth in RCSA §22a-174-12.
8. **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.
9. **No Defense to Nuisance Claim:** The Permittee shall comply with the regulations as set forth in RCSA §22a-174-14.
10. **Severability:** The Permittee shall comply with the severability requirements as set forth in RCSA §22a-174-15.
11. **Responsibility to Comply:** The Permittee shall be responsible to comply with the applicable regulations as set forth in RCSA §22a-174-16.
12. **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.)
13. **Sulfur Compound Emissions:** The Permittee shall comply with the requirements for control of sulfur compound emissions as set forth in RCSA §22a-174-19.
14. **Organic Compound Emissions:** The Permittee shall comply with the requirements for control of organic compound emissions as set forth in RCSA §22a-174-20.
15. **Nitrogen Oxide Emissions:** The Permittee shall comply with the requirements for control of nitrogen oxide emissions as set forth in RCSA §22a-174-22.
16. **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).
17. **Emission Fees:** The Permittee shall pay an emission fee as set forth in RCSA §22a-174-26(d).
18. **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.
19. **Carbon Monoxide Emissions:** The Permittee shall comply with the requirements for control of carbon monoxide emissions as set forth in RCSA §22a-174-21.

Section III: Applicable Requirements and Compliance Demonstration

- 20. Receiving, Storing, and Blending Fuel Oil with greater than 1% Sulfur by Dry Weight in the Non-Operating Tanks:** [RCSA §22a-174-19(a)(4)(iii)(E); Approval Letter from the commissioner, Dated January 18, 2000]
- a. Except as provided herein, the Permittee shall not dispense, under any circumstances, any fuel with greater than 1% 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 1% sulfur dry weight at the facility shall only be transferred to sites outside of Connecticut, and never transferred to site(s) in Connecticut, with the exception of facilities authorized by the commissioner to accept such fuel.
 - b. The Permittee shall designate one operating tank at all times to store fuel with 1% sulfur by dry weight or less to supply its own generating units. Such tank shall be marked Tank B at the facility although another may be designated by the Permittee.
 - c. The Permittee shall maintain records of the volume and sulfur content by dry weight of any and all fuel transfers into, out of, and among non-operating tanks.
 - d. Failure to maintain such records or failure to inform the commissioner of all transfers may result in the commissioner's revocation of the approval.
 - e. The Permittee shall inform the commissioner in writing at least three days prior to transferring fuel with greater than 1% sulfur dry weight from the facility and shall specify the volume, percent of sulfur content by dry weight, and destination(s) of the fuel transferred.
- 21. General Record Keeping Requirements:** The Permittee shall keep records of the dates, times, and places of all emission testing done on any unit, the persons performing the measurements, the testing methods used, the operating conditions at the time of testing, and the results of such testing. [RCSA §22a-174-4(d)(1)]
- 22. General Reporting Requirements:** The Permittee shall submit to the commissioner written quarterly reports of excess emissions and CEM malfunctions. Such reports shall be submitted to the commissioner each year 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-174-4(d)(1); RCSA §22a-174-22(1)(4)]
- 23. General Operating Requirements:** All stack continuous emission monitoring devices shall be properly serviced and maintained by the facility and shall be operated in conformance with RCSA §22a-174-4(d). [P 015-0089]

Section III: Applicable Requirements and Compliance Demonstration

L. COMPLIANCE ASSURANCE MONITORING (CAM) PLAN

1. Process/Emissions: EU-3 (Coal-Fired Boiler)

a. Control Technology

- i. Electrostatic Precipitator (ESP)
- ii. Primary Pollutant: Particulates (PM)
- iii. Emission Limit: 0.06 lb/MMBtu of heat input [RCSA §§22a-174-4; 22a-174-18; P 015-0089]

2. General Design Information

ESP Technical Design Data		ESP Hoppers Technical Design Data	
Manufacturer	Research - Cottrell	Manufacturer	Research - Cottrell
Manufacturer (controls)	Redkoh industries	Number of Hoppers	24
Air Inlet Temperature, nominal	275 °F to 300 °F	Capacity	1000 ft ³
Type	Horizontal flow, 4 chambers	Vibrator Manufacturer	Eriez
Number of T/R sets	16	Heater Manufacturer	Cooperheat and Thermon
Number of Electrodes	5,616		
Rapper Type	Magnetic Impulse		
Precipitator Efficiency	98-99 %		
Voltage, nameplate	45 kV		
Current, nameplate	750 – 1500 mA		

3. Background

The ESP removes the fly ash particles from the flue gas exiting the boiler. The ash collected by the ESP is collected in hoppers and then removed by the Fly Ash System. The ESP is divided into four separate chambers that are arranged side by side across the flue gas path. Within each chamber there is a series of collector plates and discharge electrodes. In all, there are 16 transformer/rectifiers that are referred to as T/R sets. The T/R sets are used to increase the voltage supplied to the discharge electrode and convert the alternating current (AC) input voltage to a direct current (DC) output. Once the ESP is energized, its operation is mostly automatic. As a general rule, total power levels are an indicator of the functionality of the ESP.

To reduce the mercury emissions when burning coal, an activated carbon injection system and a pulse-jet fabric filter baghouse were installed. The system was installed on the “back end” (i.e., downstream from the existing ESP and upstream from the stack). The activated carbon is sprayed into the flue gas stream passing through the ductwork in the baghouse. The injected activated carbon adsorbs vapor phase mercury from the flue gas stream and is collected by the fabric filters in the baghouse. The fabric filter baghouse collects particulate mercury in addition to the fly ash from the combustion process.

Section III: Applicable Requirements and Compliance Demonstration

4. Compliance Assurance Monitoring

a. Indicator No. 1

- i. Indicator: ESP voltage, current, spark rate, and power at each Transformer/Rectifier (T/R)
- ii. Justification: The voltage and current are used to help diagnose reductions in power. A reduction in voltage typically relates to higher spark rates indicating increased particulate loading while high voltage with low amperage ratings are typical of dirty collector plates and wires. Stable coal firing conditions should have primary voltages and secondary mA values above 150.

The T/R power is the primary indicator of the precipitator T/R performance. The power is a product of the secondary voltage and secondary amperage. The power fluctuates based on the cleanliness of the collector plates/wires, the particulate count in the flue gas and the gas flow velocity. An increase in the spark rate or reduction of voltage or current result in a reduction in power.

The T/R set control system automatically maintains optimum current and voltage conditions at all times. The system also limits the voltage and current below the ratings of each set.

The unit operator monitors the voltage applied to the primary and secondary windings of the transformer, the current in the primary windings, the total average DC current output of the silicon rectifier, and the average sparking rate in the precipitator on the plant data acquisition system (see Table III.L.3 of this Title V permit).

- iii. Measurement Approach: Plant data acquisition system and a voltage/current output-limiting device
- iv. Indicator Range or Designated Conditions:
If power levels, operating voltages, amperages, or spark rate of any of the precipitator fields show considerable variation (greater than 70%) as compared to adjacent T/R sets.

Sustained (six minutes in duration or more) precipitator side total power levels below 125 kW or individual precipitator T/R set power levels below 5 kW while firing coal shall be investigated.

- v. Corrective Action: Solutions to mechanical type problems:

(A) Rapper failure: This is a potential cause of dust accumulation. The ESP use magnetic impulse/gravity impact type rappers. A common cause of failure of this type of rapper is a short in the coil that lifts the rapper. Methods of correcting this problems include:

- (1) Repairing the defective rapper.
- (2) Rebuilding the defective rapper.
- (3) Replacing the defective rapper with a new one.

(B) Dust build-up with rappers in good operating orders: the following equipment control procedures can be used:

- (1) Increase rapping frequency (this is a good first choice. Frequent checks of electrical characteristics through the precipitator will indicate the success of this procedure. If increased rapping intensity is required, the increase should not exceed 50% because of the potential for damage to the precipitator).
- (2) Increase rapping intensity.
- (3) Should either of the above activities fail to clear the dust accumulation, a procedure called "power down" rapping can be employed. This technique involves removing or

Section III: Applicable Requirements and Compliance Demonstration

reducing the power from the field (usually one field is turned off and rapped at a time) and rapping that field for a period of 15 minutes to an hour. This technique is also routinely employed for EU-3 as a preventive measure.

- (C) **Wire breaks:** Random wire breaks (up to 10% of the total wires in the ESP) will not significantly affect ESP performance. Wire breaks will be repaired during the yearly plant shutdown if the percent breakage approaches the 10% total or specific gas pass sections have abnormally high wire losses. However, if more than 10% of the total wires are broken then corrective action will be implemented within the time necessary to shut down the combustion process without damaging the process equipment or control equipment, and without leaving the electrical grid system with a shortage of generating capacity. If records show that wire breaks occur in the same area of the precipitator, additional troubleshooting and corrective action will be initiated.

Wire failure mechanisms include: electrical erosion, mechanical erosion, corrosion, or a combination of the three. The most common of these is a failure at a plate/wire misalignment point or where the wire passes the edge of the plates in the collecting field (end effect). Correction of this problem involves realignment of the plates and/or placing a wire shroud that extends 6 to 18 inches from each end of the plugged ash hopper.

- (D) **Plugged ash hopper:** When a plugged ash hopper is detected, immediate action needs to be taken to clear and empty the unit. This problem will be given a high priority for correction because long term precipitator performance can be reduced. Causes of hopper plugging include: obstructions due to fallen wires and/or bottle weights, inadequately sized solids removal equipment, use of the hopper for dust storage, inadequate insulation or heating of the hopper and air infiltration through access doors. Corrective actions include:
- (1) Verification of the ash removal system operation.
 - (2) Roding/poking of the hopper to dislodge the accumulated ash. If necessary, place the T/R controller for the field above the hopper in the manual mode to reduce the collection rate until the hopper is emptied. If the hopper is completely filled and the T/R has not tripped automatically, it should be turned off until the hopper has been cleared.
 - (3) Reduce cooling effects around the hopper so that ash remains heated and free flowing.
 - (4) Installation of striker plates on the hopper wall or throat to be used during emptying to dislodge ash build-up.
- (E) **Misalignment:** Corrective action for misalignment can only be done during a complete precipitator shutdown. Corrective actions include:
- (1) Plate straightening by: hydraulic press, localized heating with an oxy/acetylene torch followed by water quench, remove the warped section of a plate with a cutting torch and replace. Major rebuilding will require removal of the top of the precipitator and replacement of entire plates.
 - (2) Wire correction: Bent wire frames or lower guide frames often cause the wires to slaken and bow towards the plates. Distorted lower guide frames are often difficult to straighten and may have to be replaced. If the distortion is not too serious and only a few wires are slack, then they can be removed. The wires can be tightened by crimping them in the direction of gas flow, or by lowering the support pigtail.
 - (3) General misalignment caused by a shift in guide frame components can usually be corrected by realigning the frame.

Section III: Applicable Requirements and Compliance Demonstration

(F) **Air infiltration:** Routine inspections of the precipitator will reveal any locations of leakage into/out of the unit. Correction of this problem involves simple sealing of the leaking joint, surface or door latch gasket.

vi. Data Representativeness: The T/R set control system automatically maintains optimum current and voltage conditions at all times. The system also limits the voltage and current below the ratings of each set.

vii. QA/QC: All instruments and equipment will be calibrated, maintained, and operated according to manufacturer specifications. The Operation and Maintenance Plan will be available for review during normal business hours at the premises.

viii. Monitoring Frequency: Daily review of T/R data will give station personnel an indication of any abnormal conditions.

ix. Data Collection Procedures: Performance evaluation will be done via analysis of the recorded T/R set voltage and amperage data.

x. Averaging Periods: Instantaneous Values

xi. Record Keeping: T/R set data records of voltage and current levels and operations and maintenance checklists, wire breakage record and repair work orders.

All records will be kept and maintained at the premises for a period of five years and will be available for review upon request by a regulating agencies.

xii. Reporting: Reports that include times and duration of all instances of data recorded that were outside of an indicated performance range.

The report will also contain information on the corrective actions that were promptly taken or a statement that all readings were within the performance range.

xiii. Frequency: The voltage, current, and power for each T/R sets are measured continuously.

b. Indicator No. 2

i. Indicator: Continuous opacity monitoring

ii. Justification

The opacity of particulate matter in stack is continuously monitored by a measurement system based upon the principle of transmissometry. Light having specific spectral characteristics is projected from a lamp through the effluent in the stack, and the intensity of the projected light is measured by a sensor. The projected light is attenuated because of absorption and scattered by the particulate matter in the effluent; the percentage of visible light attenuated is defined as the opacity of the emission. Transparent stack emissions that do not attenuate light will have a transmittance of 100 percent or an opacity of zero percent. Opaque stack emissions that attenuate all of the visible light will have a transmittance of zero percent or an opacity of 100 percent.

Compliance with the six minute block (20%)/one minute block (40%) may indicate compliance with the PM limit.

Section III: Applicable Requirements and Compliance Demonstration

In general, individual precipitator power T/R set power less than 5 kW during normal operation results while firing coal shall be investigated. During abnormal operation or malfunction, the ESP power levels may be appreciably lower than normal operational levels.

Monitoring required under 40 CFR Part 60, Appendix B and RCSA §22a-174-4(b).

- iii. Measurement Approach: Stack continuous opacity monitor (COM). Also north & south duct continuous opacity monitors are used as troubleshooting tool.
- iv. Indicator Range or Designated Conditions
Except during periods of startup, shutdown or malfunction; commissioner-approved stack testing; or intentional sootblowing, fuel switching or sudden load changing done in accordance with good engineering practices, when opacity levels exceed 20% opacity during any six-minute block average; or 40% opacity during any one-minute block average.
- v. Corrective Action:
Any ESP power levels that are appreciably lower than normal operational levels may be an indication of abnormal operation or malfunction. Precipitator side total power levels below 125 kW or individual precipitator T/R set power levels below 5 kW while firing coal shall be investigated. The corrective action for indicator #1 should be followed.

Any ESP power levels that are appreciably lower than normal operational levels may be an indication of abnormal operation or malfunction. Precipitator side total power levels below 125 kW or individual precipitator T/R set power levels below 5 kW while firing coal shall be investigated. The corrective action for indicator #1 should be followed.

- vi. Data Representativeness: The opacity readings are taken in accordance with 40 CFR Part 60, Appendix B and RCSA §22a-174-18.
- vii. QA/QC: All instruments and equipment will be calibrated, maintained, and operated according to manufacturer specifications.

Opacity readings are taken in accordance with 40 CFR Part 60, Appendix B and RCSA §22a-174-18.

The Operation and Maintenance Plan will be available for review during normal business hours at the premises.

- viii. Monitoring Frequency: Continuously
- ix. Data Collection Procedures: Performance evaluation will be done by reviewing the opacity monitoring data.
- x. Averaging Periods: Six minute block (20%)/One minute block (40%)
- xi. Record Keeping: COM one-minute block and six-minute block averages

All records will be kept and maintained at the premises for a period of five years and will be available for review upon request by a regulating agencies.

Section III: Applicable Requirements and Compliance Demonstration

- xii. Reporting: Reports that include times and duration of all instances of data recorded that were outside of an indicated performance range.

The report will also contain information on the corrective actions that were promptly taken or a statement that all readings were within the performance range.

- xiii. Frequency: The opacity readings are measured continuously.

5. Performance Test Data

Table III.L.2: Performance Test Data				
Test Date	Average PM emissions Rate (lb/MMBtu)	Percent of Allowable PM Emissions Rate (%)	Average Load (MW)	Capacity (MW)
January 5, 2012	0.001	1.7	377 Gross	400 (on coal)
April 14-16, 2010	0.00368	6	400 Net	EPA ICR Survey Test
April 25, 2007	0.04	67	379 Gross ad 361 Net	Performance Test
August 30, 2001	0.06	100	376 Gross ad 361 Net	400 Net

6. Sample Operating Conditions of the ESP

Table III.L.3: Sample Operating Conditions of the ESP							
T/R Set	Total ESP Power (kW)	Spark (min)	Primary Voltage (V)	Primary Current (A)	Secondary Voltage "A" (kV)	Secondary Voltage "B" (kV)	Secondary Current (A)
1	19	0	424	58	46	47	465
2	29	0	417	87	47	47	693
3	28	0	427	82	43	46	628
4	28	0	422	85	45	46	612
5	28	0	427	84	48	48	660
6	24	0	422	73	49	50	576
7	28	0	427	83	50	49	654
8	29	0	422	86	47	46	675
9	40	0	374	133	44	45	868
10	35	0	369	118	41	40	900
11	42	4	412	128	48	49	872
12	39	0	369	133	44	46	640
13	64	0	410	195	48	48	1284
14	40	0	408	125	50	50	768
15	53	8	398	174	50	48	1104
16	56	0	434	162	49	48	1116

Section III: Applicable Requirements and Compliance Demonstration

7. Sample Operating Conditions of the Opacity Monitor at a Gas Flow Rate of 909.6 KCFM

Instant	1.7%
1 Minute	1.8%
6 Minutes	1.9%
6 Minutes Potential	1.9%

8. Inspection and Maintenance of the ESP

a. Daily Sets Inspection

- i. Operation of the dust discharge system: All conveyors, airlocks, valves, and other associated equipment should be operating so that ash removal is optimal.
- ii. Vacuum system: Check vacuum gauges. This gauge will be used as a reference during ash and dust removal with the ash equipment system.
- iii. Check indicator lights on the hopper level alarm system.
- iv. Check hopper access doors for air leaks or dust discharge.
- v. Check for air leaks around the precipitator.

b. Annual Inspection of Plates

- i. Make sure there are no holes. If any are found they are to be patched. If they are out of reach, the wires that will be affected must be dropped.
- ii. Make sure they are aligned.
 - (A) Plates should be 9 inches apart
 - (B) Plate to wire should be 4 ½ inches, ¼ to ½ is an acceptable deviation. Anything more should be noted and plans should be made to align the field.
 - (C) Opzel fin to nearest wire should be 5-6 inches on both sides.
- iii. Inspect the fly ash accumulation on the plates.
- iv. Lightly bang plates from the top with a hammer to get the ash to drop.
- v. Abrasive cleaning of the wires and plates will be done if manual rapping and shaking does not prove to be effective.

c. Annual Inspection of Wires

- i. Inspect and make sure that none are missing, if so they should be repaired/replaced as deemed necessary.

Section III: Applicable Requirements and Compliance Demonstration

- ii. Making sure all the bottles are attached, if any are missing, they should be replaced. Inspect the accumulation on the wires.
 - iii. The wires should be shaken from the top and sides.
 - iv. Abrasive cleaning of the wires and plates will be done if manual rapping and shaking does not prove to be effective.
- d. *Annual Inspection of Inlet, Outlet Ducts and Side Walls*
- i. Make sure there are no holes, if any are found they must be fixed.
 - ii. Look for excessive moisture on the ceiling and walls, if any is found look extensively for the leak(s) so that they may be fixed.
 - iii. Shake or bang perforated plates on both the inlet and outlet to shake off ash. Make sure that all of the holes are unclogged so that the proper airflow is achieved when online.
 - iv. Evacuate all ash.
- e. *Annual Inspection of the Penthouse*
- i. Kick pipe nipples and caps, if they break off, new ones should be put in their place or the old ones repaired.
 - ii. Inspect support insulators and make sure there are no breaches. If there are, the insulators should be replaced.
 - iii. Tug on all high voltage cables. Make sure they are taught, snug, and are making good contact.
 - vi. Inspect all access doors and edges.
 - (A) Look for corrosive holes on the hatch edges. If any are found they must be patched.
 - (B) Look for holes in the insulation on the hatch door. If any are found they can be caulked using a high temperature RTV caulk or patched.
 - (C) Look for corroded gaskets on the hatch doors. If any are found they must be replaced.
 - v. Inspect all grounding sticks and wires. Replace if needed.
 - vi. Clean all high voltage insulators and support insulators using non-residual cleaning solution (colanite insulator cleaner is normally used, but a dilution of vinegar and water can also be used).
- f. *Annual Inspection of the Hoppers*
- i. All hoppers should be sucked clean through the bottom ash valve and access door.
 - ii. All hopper access doors should be opened to inspect the doors and hatch edges.

Section III: Applicable Requirements and Compliance Demonstration

- (A) Look for corrosive holes on the hatch edges. If any are found, they must be patched.
- (B) Look for holes in the insulation on the hatch door. If any are found, they can be caulked using a high temperature RTV caulk or patched.
- (C) Look for corroded gaskets on hatch doors. If any are found, they must be replaced.

g. Annual Inspection of the Roofs

- i. Open the back of all T/R's and inspect all of the high voltage bushings for cracks. If they are cracked, spray with Gliptol, or replace bushing.
- ii. Clean all high voltage insulators using non-residual cleaning solution (Colanite insulator cleaner is normally used, but a dilution of vinegar and water can also be used).
- iii. Inspect all rappers, boots, and conduit. Make sure there are no holes or leaks in the boots, rappers are all intact, and that all conduit is closed and secure with no exposed wires.

h. Annual Inspection of the Controls

- i. Check programming variables on T/R and rapper controls. Make sure they match up with data sheet.
- ii. Check Max Limits and ensure they match data sheet.
- iii. Make changes in program variables if necessary.
- iv. Check resistance readings on resistor boards for any mA & kV feedback signals. Should meet manufacturers' specifications.
- v. Enter sequence code to check rapper rows. Walk down the rappers and check the status on each. If any are not meeting expectations, make a notification or work order to test and replace.

i. Historical Data

Prior to Title V permit, several performance tests had been conducted. The PM emissions measured during the performance tests were between 6 and 100 percent of the emissions limit (0.06 lb/MMBtu). There was a large margin of compliance with the PM limit with the installation and use of the baghouse. Table III.L.2. of the Title V permit lists data from the last three performance tests.

j. Testing Requirements

The Permittee shall perform particulate matter stack tests at least once every five years from the date of the last particulate matter stack test.

Section IV: Compliance Schedule

TABLE IV: COMPLIANCE SCHEDULE

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

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.

SECTION V: 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.

Section V: State Enforceable Terms and Conditions

- D. Opacity (Visible Emission Standards):** During periods of startup, shutdown or malfunction; commissioner-approved stack testing; or intentional sootblowing, fuel switching or sudden load changing done in accordance with good engineering practices, the Permittee shall not be subject to the visible emission standards stated in the Title V permit and as set forth in RCSA §22a-174-18(j) for the measurements of opacity limitation using opacity CEM provided that:
1. The period of exception from the visible emissions standards (i.e. during periods of startup, shutdown or malfunction; commissioner-approved stack testing; or intentional sootblowing, fuel switching or sudden load changing done in accordance with good engineering practices) shall not exceed 0.5% of the total operating hours of such stationary source during any calendar quarter. [RCSA §22a-174-18(j)(1)(B)]
 2. The Permittee shall not cause or allow visible emissions in excess of 60% opacity during any six-minute block average of the period of exception from the visible emissions standards (i.e. during periods of startup, shutdown or malfunction; commissioner-approved stack testing; or intentional sootblowing, fuel switching or sudden load changing done in accordance with good engineering practices). [RCSA §22a-174-18(j)(1)(C)]
- E. 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.
- F. 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.
- G. 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.
- H. Open Burning:** The Permittee is prohibited from conducting open burning, except as may be allowed by CGS §22a-174(f).
- I. 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.
- J.** 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.
- K.** The Permittee shall comply with the requirements for Control of Carbon Dioxide Emissions as set forth in RCSA §22a-174-31.
- L. Mercury emission standards:** In accordance with CGS §22a-199, on and after July 1, 2008, the owner or operator of an affected unit or units shall: (1) meet an emissions rate of equal to or less than 0.6 pounds of mercury per trillion BTU of heat input, or (2) meet a mercury emissions rate equal to a ninety percent reduction of mercury from the measured inlet conditions for the affected unit, whichever emissions rate is more readily achievable by such affected unit, as determined by the owner or operator of such affected unit.

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.

SECTION VI: 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: U.S. EPA New England, 5 Post Office Square, Suite 100 (OES04-2), Boston, Massachusetts 02109, Attn: Air Clerk.

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

SECTION VI: 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

SECTION VI: 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

SECTION VI: 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

Section VI: Title V Requirements

SECTION VI: TITLE V REQUIREMENTS

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 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.

Section VI: Title V Requirements

SECTION VI: TITLE V REQUIREMENTS

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 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.