



Connecticut Department of  
**ENERGY &  
ENVIRONMENTAL  
PROTECTION**

**BUREAU OF AIR MANAGEMENT  
NEW SOURCE REVIEW PERMIT  
TO CONSTRUCT AND OPERATE A STATIONARY SOURCE**

Issued pursuant to Title 22a of the Connecticut General Statutes (CGS) and Section 22a-174-3a of the Regulations of Connecticut State Agencies (RCSA).

<b>Owner/Operator</b>	Wheelabrator Bridgeport, L.P.
<b>Address</b>	6 Howard Avenue, Bridgeport, CT 06605
<b>Equipment Location</b>	6 Howard Avenue, Bridgeport, CT 06605
<b>Equipment Description</b>	Babcock & Wilcox/Von Roll Reciprocating Grate, Waterwall Furnace, Watertube Boiler No. 3
<b>Town-Permit Numbers</b>	015-0099
<b>Premises Number</b>	0765
<b>Stack Number</b>	010
<b>Prior Permit Issue Dates</b>	October 23, 1985 (Permit to Construct) February 15, 1990 (Original Permit to Operate) October 31, 1997 (Revision) February 11, 2002 (Revision) August 9, 2004 (Modification) November 27, 2013 (Modification)
<b>Modification Issue Date</b>	October 21, 2016
<b>Expiration Date</b>	None

/s/ Anne Gobin for \_\_\_\_\_  
Robert J. Klee  
Commissioner

October 21, 2016  
Date

This permit specifies necessary terms and conditions for the operation of this equipment to comply with state and federal air quality standards. The Permittee shall at all times comply with the terms and conditions stated herein.

## **PART I. DESIGN SPECIFICATIONS**

### **A. General Description**

Wheelabrator Bridgeport, L.P. operates a resource recovery facility. The facility has three Babcock & Wilcox waterwall furnace/watertube boiler systems which combust municipal solid waste (MSW) and special waste to produce steam. The steam produced is in turn sold, used for heating, or used by the steam turbine to produce electricity. Natural gas is used for startup and flame stabilization. Each municipal waste combustor (MWC) is equipped with a spray dryer absorber for acid gas control, a fabric filter for particulate matter control, a powdered activated carbon injection system for control of mercury and a selective non-catalytic reduction system for control of NO<sub>x</sub> emissions. Each MWC is also equipped with continuous emission monitors to monitor opacity, SO<sub>2</sub>, NO<sub>x</sub> and CO.

### **B. Equipment Design Specifications**

1. Municipal Waste Combustor
  - a. Design Maximum Charging Rate: 750 ton/day of MSW based on a design higher heating value of 5,200 BTU/lb
  - b. Maximum Heat Input Rate: 325 MMBTU/hr
  - c. Design Steam Flow Rate: 196,800 lb/hr @ 900 psig and 830°F
2. Auxiliary Burner System: This furnace/boiler shall be equipped with an auxiliary burner system that shall have the capability of raising combustion gas temperatures to 1800°F for a combustion gas residence time of at least one second, except during periods of start-up, shutdown, and malfunction. Such system shall be capable of maintaining a minimum combustion gas temperature of 1500°F after secondary air injections for at least one second. The combustion gas temperature when firing MSW, at all times, shall be at a minimum of 1800°F for a minimum of one second residence time, measured at the one second plane. Measurement of the superheater outlet temperature is a surrogate for the furnace/combustion gas temperature and residence time based on the time-temperature test.<sup>1</sup>
  - a. Number of Burners: two
  - b. Burner Manufacturer/Model No: Babcock & Wilcox
  - c. Maximum Auxiliary Fuel Firing Rate: 70 MCF/hr each burner
  - d. Maximum Gross Heat Input : 70 MMBTU/hr each burner
3. Nominal Output: 69.5 MW total plant
4. Overfire and underfire air will be maintained to obtain optimum combustion.

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<sup>1</sup> Superheater outlet temperature is monitored and converted to furnace or combustion gas temperature at the one second plane based on the time-temperature test results, in order to determine compliance with the 1800°F for a minimum of one second residence time requirement.

5. This furnace/boiler shall be equipped with automatic controls for the regulation of combustion; for example, air distribution and combustion gas temperature controls.

### **C. Control Equipment Design Specifications**

The following specifications need not be verified on a continuous basis; however, if requested by the Commissioner, demonstration shall be shown.

1. Fabric Filter: 10 compartments @ 8280 ft<sup>2</sup> each - a minimum of 8 compartments shall be in service when the unit is operating.
  - a. Make and Model: Wheelabrator-Frye
  - b. Air/Cloth Ratio: 2.28:1 (with 10 compartments) and 2.85:1 (with 8 compartments)
  - c. Bag Material: fiberglass with acid resistant finish or fiberglass with ePTFE membrane
  - d. Cleaning Method: Automatic
  - e. Pressure Drop Across Each Compartment: 3.5-15 in H<sub>2</sub>O
  - f. Pressure Drop Across Baghouse: 3.5-15 in H<sub>2</sub>O
  - g. Inlet Temperature: Not to exceed 17°C (30°F), based on a 4-hour arithmetic average, above the maximum demonstrated particulate matter control device inlet temperature (RCSA §22a-174-38(g)(1))
  - h. Design Removal Efficiency: 99% +
2. Spray Dryer Absorber
  - a. Make and Model: Wheelabrator-Frye
  - b. Lime Usage: 0-1400 lb/hr
  - c. Water Usage: 0-45 gal/min
  - d. Inlet Gas Temperature: 400-550°F
3. Selective NonCatalytic Reduction (SNCR)
  - a. Make and Model: Halcyon Mechanical Services
  - b. Control Reagent: Urea
  - c. Reagent Injection Rate: 0-35 gal/hr
  - d. Temperature Range: 1600-2100°F
  - e. Furnace Mixing Time: minimum 0.5 sec
4. Powdered Activated Carbon Injection System: Operational parameters required to achieve maximum mercury reduction are established by stack test results:
  - a. Make and Model: Halcyon Technologies PACIS
  - b. Control Reagent: Powdered Activated Carbon
  - c. Reagent Injection Rate: 0-50 lb/hr
  - d. Design Removal Efficiency: 85%

### **D. Stack Parameters**

1. Minimum Stack Height: 295 ft above grade
2. Minimum Exhaust Gas Flow Rate: 189,000 acfm @ 250°F

3. Normal Stack Exit Temperature, Range: 250-350°F
4. Minimum Distance from Stack to Property Line: 104 ft

## **PART II. OPERATIONAL CONDITIONS**

### **A. Operational Parameters**

1. Municipal Waste Combustor
  - a. Material(s) Charged:
    - i. Municipal solid waste, as defined and restricted under CGS §22a-207 et seq. and any applicable Bureau of Materials Management and Compliance Assurance permit.
    - ii. Special waste as defined in RCSA §22a-209-1 and in accordance with the Permittee's most recently DEEP approved Special Waste Disposal Plan issued pursuant to CGS §22a-208y.
  - b. Maximum Allowable Daily Charging Rate
    - i. The Maximum Allowable Daily Charging Rate for MSW is based upon the maximum allowable heat input rate to the furnace/boiler of 325 MMBTU/hr in accordance with the chart in Appendix G of this permit setting forth the maximum allowable daily MSW charging rate (ton/day) as a function of the MSW higher heating value (BTU/lb).
    - ii. The Permittee shall combust no more than 180 tons per day of Special Waste in total for the three municipal waste combustor units at this facility.
    - iii. Medical waste, or waste that originated as medical waste, shall not be combusted in this unit, unless it is done in compliance with II.A.1.b.ii of this permit.
  - c. Maximum Steam Flow Rate: 216,480 lb/hr
  - d. Maximum Hours of Operation: Daily: 24; over any consecutive 12-month period: 8760
2. Auxiliary Burner System
  - a. Fuel Type: Natural Gas
  - b. Annual Capacity Factor, as defined in 40 CFR §60.41b, shall not exceed 10%, in accordance with 40 CFR §60.44b(d).
3. The Permittee may install no later than August 1, 2017, a Flue Gas Recirculation (FGR) system to improve SNCR performance. Installation and operation of the FGR system shall not preclude the Permittee from complying with all other conditions listed in this permit.
4. The Permittee shall not cause or allow such unit to operate at a temperature, measured at each particulate control device inlet, more than 17 degrees centigrade, based on a 4-hour arithmetic average, above the maximum demonstrated particulate control device temperature measured during the most recent performance test for dioxin/furan emissions for which compliance with the dioxin/furan emissions limit was achieved.  
[RCSA §22a-174-38(g)(1)]
5. The Permittee shall not cause or allow such unit to operate at a municipal waste combustor unit load greater than 110% of the maximum demonstrated 4-hour average municipal waste combustor unit load, based on a 4-hour arithmetic average, measured during the most recent performance test for dioxin/furan emissions for which compliance with the dioxin/furan emissions limit was achieved. Municipal waste combustor unit load shall be measured by a steam flow meter. [RCSA §22a-174-38(g)(2)]

### PART III. CONTINUOUS EMISSION MONITORING REQUIREMENTS AND ASSOCIATED EMISSION LIMITS

The Permittee shall comply with the CEM requirements as set forth in RCSA §22a-174-4. CEM shall be required for the following pollutant/operational parameters and enforced on the following basis:

Pollutant/Operational Parameter	Averaging Times	Emission Limit	Units
Opacity	6-minute block	10%	
SO <sub>2</sub>	24-hour daily geometric average	29 <sup>2</sup>	ppmvd @7% O <sub>2</sub>
NO <sub>x</sub> <sup>3</sup>	24-hour block	200 (Prior to August 2, 2017)	ppmvd @7% O <sub>2</sub>
		150 (On or after August 2, 2017)	
CO	4-hour block	100	ppmvd @7% O <sub>2</sub>
O <sub>2</sub>	1-hour		
Unit Load	4-hour block		lb/hr
Total Combined Overfire and Underfire Air			acfm
Furnace Temperature	4-hour block		°F
Pressure Drop Across the Baghouse			in H <sub>2</sub> O
Baghouse Inlet Temperature	4-hour block		°C or °F
Activated Carbon Injection Rate	8-hour block		lb/hr

- A. The Permittee shall install and operate CEM equipment to monitor and record opacity, sulfur dioxide (SO<sub>2</sub>), nitrogen oxides as nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO) and oxygen (O<sub>2</sub>).
- B. The Permittee shall also install and operate continuous monitoring systems for measuring and recording unit load (i.e., steam flow meter), total combined overfire and underfire air, furnace temperature as measured at the superheater outlet, pressure drop across the baghouse, baghouse inlet temperature, and powdered activated carbon injection rate .
- C. This furnace shall be equipped to measure the required combustion temperatures and associated required residence times.
- D. The Permittee shall install and use dedicated CEM analyzers. Each furnace flue exhaust shall have its own set of CEM analyzers and there shall be no shared analyzers.
- E. The Permittee shall review all recorded CEM data daily and notify the Commissioner in writing, on forms prescribed by the Commissioner, of any deviation from an emissions or parametric 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 or parameter, no later than ten days after such deviation commenced.

<sup>2</sup> Or a 75% reduction by weight or volume, whichever is less stringent.

<sup>3</sup> Pursuant to RCSA §22a-174-38(c)(8), prior to August 2, 2017, the Permittee shall not cause or allow the emission of NO<sub>x</sub> in excess of 200 ppmvd @7% O<sub>2</sub>. On or after August 2, 2017, the Permittee shall not cause or allow the emission of NO<sub>x</sub> in excess of 150 ppmvd @7% O<sub>2</sub>.

- F. Continuous monitors and recorders required by this permit shall be installed, calibrated, tested and operated to measure and record the emissions and parameters in a manner that demonstrates compliance with siting, performance and quality assurance specifications stated in 40 CFR Part 60 Appendices B and F, RCSA §22a-174-38(j) and RCSA §22a-174-4.
- G. The Permittee shall report all CEM data to the Commissioner on a quarterly basis, in accordance with RCSA §22a-174-38(l)(2).

#### **PART IV. MONITORING, RECORD KEEPING AND REPORTING REQUIREMENTS**

##### **A. Monitoring and Record Keeping Requirements**

1. The Permittee shall make and keep records summarizing:
  - a. the monthly quantity of MSW combusted for the facility. The monthly quantity of MSW combusted for the facility shall be determined by summing the truck scale house weight data for the month minus the refuse pit inventory. The pit inventory will be measured on the Sunday nearest to the end of the month and pro-rated for the full month.
  - b. the combined monthly total quantity of Special Waste received by the facility in accordance with the most recently DEEP approved Special Waste Disposal Plan. These records shall identify the categories of Special Waste received by the facility each month and the corresponding monthly totals for each of these categories.
  - c. the monthly quantity of natural gas combusted by the furnace/boiler, using either fuel purchase receipts or a non-resettable totalizing fuel meter.
2. The Permittee shall monitor and record the Special Waste daily charging rate for each of the three municipal solid waste combustors and the combined daily total for the facility.
3. The Permittee shall calculate and record the consecutive 12-month quantity of MSW and Special Waste combusted at the facility by adding the current month's MSW and Special Waste combusted to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of each month.
4. The Permittee shall calculate and record the consecutive 12-month natural gas consumption by adding the current month's fuel consumed to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of each month.
5. The Permittee shall calculate and record the annual capacity factor for natural gas for each calendar quarter. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. [40 CFR 60.49b(d)]
6. The Permittee shall keep sufficient records to determine compliance with the required combustion temperatures and associated required residence times. These records shall include the time-temperature test results, monitoring records of furnace temperature as measured at the superheater outlet, and a sample calculation identifying the superheater outlet temperature corresponding to a combustion gas temperature of 1800°F for a minimum of one second residence time, measured at the one second plane.
7. The Permittee shall make and keep records of the dates and time periods for startup and shutdown events for each furnace/boiler. [RCSA §22a-174-38(k)(13)]

8. The Permittee shall keep records of the occurrence and duration of any malfunction in the operation of each furnace/boiler and/or associated pollution control equipment.
9. The Permittee shall make and keep records summarizing all CEM data required in Part III of this permit. [RCSA §22a-174-38(k)(3)]
10. The Permittee shall make and keep records of all annual performance tests conducted to determine compliance with the particulate matter, dioxin/furan, cadmium, lead, mercury and ammonia emission limits.
11. The Permittee shall make and keep records of all performance tests conducted to determine compliance with any pollutant emission rate or operational parameter, if such tests are required by the Commissioner.
12. The Permittee shall calculate and record the monthly and consecutive 12-month PM, SO<sub>2</sub>, NO<sub>x</sub>, VOC, CO, Pb, HCL and ammonia emissions in units of tons. The consecutive 12-month emissions shall be determined by adding (for each pollutant) the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for each pollutant. The Permittee shall make these calculations within 30 days of the end of the previous month.
13. The Permittee shall make and keep records of the ASC and MASC for the pollutants listed in RCSA §22a-174-29 and emitted by this equipment.
14. The Permittee shall make and keep records of the date, the time of the shift, the name of the operator of that shift and the operator's certification. [RCSA §22a-174-38(h)(1)]
15. The Permittee shall make and keep records of the name of each person that has reviewed the operating manual, the date of initial review and the date of the annual review. [RCSA §22a-174-38(h)(5)]
16. The Permittee shall make and keep records of operator training and certification in accordance with RCSA §22a-174-38(k)(2).
17. The Permittee shall make and keep records for the carbon injection system in accordance with RCSA §22a-174-38(k)(11).
18. The Permittee shall make and keep for each municipal waste combustor unit, the following records of air pollution control device operation [RCSA §22a-174-38(k)(12)]:
  - a. For each reagent, the feed rate to the air pollution control device, measured in kilograms per hour or pounds per hour, during the annual particulate emissions performance tests, with supporting calculations;
  - b. For each reagent, the feed rate to the air pollution control device, measure in kilograms per hour or pounds per hour, for each hour of operation, with supporting calculations; and
  - c. For each calendar quarter, total reagent usage for each municipal waste combustor unit in kilograms or pounds for each calendar quarter.
19. The Permittee shall keep all records required by this permit on premises for a period of no less than five years and shall submit such records to the Commissioner upon request.

## **B. Reporting**

1. The Permittee shall provide written notification to the Commissioner within 72 hours of the time at which the Permittee receives information regarding performance test results indicating that any particulate matter, opacity, cadmium, lead, mercury, ammonia, dioxin/furan, hydrogen chloride or fugitive ash emission levels exceed the applicable pollutant emission limits or standards defined in RCSA §22a-174-38.
2. The Permittee shall submit reports to the Commissioner of all required performance tests.
3. The Permittee shall submit a quarterly report to the Commissioner within 30 days following the end of each calendar quarter. Each quarterly report shall include the information required in RCSA §22a-174-38(l)(2).
4. The Permittee shall submit an annual report to the Commissioner no later than January 30 of each year following the calendar year in which the data were collected. Each annual report shall include the information required in RCSA §22a-174-38(l)(3).
5. The Permittee shall submit all RCSA §22a-174-38 applicable reports in accordance with RCSA §§22a-174-38(l)(7) through 22a-174-38(l)(9).
6. The Permittee shall notify the Commissioner, in writing, no later than August 1, 2017 of the installation and operation of a FGR system. In the event that the Permittee opts not to install a FGR system, the Permittee shall notify the Commissioner of this decision, in writing, no later than August 1, 2017.

## **PART V. OPERATION AND MAINTENANCE REQUIREMENTS**

- A.** The Permittee shall not cause or allow the plant to be operated at any time unless a certified chief operator or shift operator is physically present at the plant. [RCSA §22a-174-38(h)(1)] Operators shall be certified by the Commissioner under RCSA §22a-231-1. [RCSA §22a-174-38(h)(2)] Not later than six months after the date of employment, all chief operators and shift operators must satisfactorily complete an operator training course conducted by the commissioner. [RCSA §22a-174-38(h)(3)] The equipment operators shall be trained in the operation and maintenance of both the fuel burning and pollution control equipment.
- B.** The Permittee shall maintain an Operating and Maintenance (O&M) Manual in accordance with RCSA §22a-174-38(h)(4). This manual shall be updated on a yearly basis. Any revision to this manual which conflicts or may conflict with any condition of this permit shall be reviewed by the Commissioner and shall receive the Commissioner's written approval prior to incorporating such revision in the O&M Manual.
- C.** The Permittee shall establish a training program to review the O&M Manual with each person who has responsibilities affecting the operation of the plant. The training program shall be repeated on an annual basis for each person. [RCSA §22a-174-38(h)(5)]



## PART VI. ALLOWABLE EMISSION LIMITS

The Permittee shall not cause or allow this equipment to exceed the emission limits stated herein at any time.

**Table 1 - Pollutant Limits**

Criteria Pollutants	lb/hr	lb/MMBtu	ppmvd @ 12% CO <sub>2</sub>	TPY
PM	7.9	0.0243		34.6
SO <sub>x</sub> <sup>4</sup>	104.0	0.32		455.6
NO <sub>x</sub>	114.4	0.352		501.1
VOC	14.9	0.046	70	65.3
CO	34.1	0.105		149.5
Pb	0.13	0.0004		0.56

Non-Criteria Pollutants	lb/hr	lb/MMBtu	ppmvd @ 7% O <sub>2</sub>	TPY
Ammonia	3.717		18	16.3
Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> )	15.275	0.047		69.9
HCl	12.675			55.5

**Table 2 - RCSA §22a-174-38 Emission Limits**

Pollutant	mg/dscm @ 7% O <sub>2</sub>	ppmvd @ 7% O <sub>2</sub>
PM	25	
SO <sub>2</sub>		29 <sup>5</sup>
NO <sub>x</sub>		200 <sup>3,6</sup> (Prior to August 2, 2017)
		150 <sup>3,6</sup> (On or after August 2, 2017)
CO		100 <sup>7</sup>
HCl		29 <sup>8</sup>
Pb	0.400	
Cadmium	0.035	
Mercury	0.028 <sup>9</sup>	
Dioxins/Furans	0.000030	

<sup>4</sup> At 29 ppmvd, the SO<sub>x</sub> emission limit is 22.6 lb/hr and 98.8 TPY.

<sup>5</sup> Based on a 24-hour daily geometric average or 75% reduction by weight or volume, whichever is less stringent.

<sup>6</sup> Based on a 24-hour daily average.

<sup>7</sup> Based on a 4-hour block average.

<sup>8</sup> Or 95% reduction by weight or volume, whichever is less stringent.

<sup>9</sup> Or 85% reduction by weight, whichever is less stringent.

- A.** The emission limits from RCSA §22a-174-38(c), as specified in Table 2 above, shall apply at all times except during periods of startup (including any warm-up period when firing natural gas only), shutdown, or malfunction as specified in RCSA §22a-174-38(c)(11):
- For determining compliance with an applicable carbon monoxide emissions limit, if a loss of boiler water level control or a loss of combustion air control is determined to be a malfunction, the duration of the malfunction period shall be limited to 15 hours per occurrence. Otherwise, the duration of each startup, shutdown or malfunction period shall be limited to three hours per occurrence;
  - For the purpose of compliance with the opacity emission limits, during each period of startup, shutdown or malfunction, the opacity limits shall not be exceeded during more than five 6-minute arithmetic average measurements; and;
  - During periods of startup, shutdown, or malfunction, monitoring data shall be excluded from calculations of compliance with the Table 2 emission limits but shall be recorded and reported in accordance with subsections (k) and (l) of RCSA §22a-174-38.

In the event that particulate matter, cadmium, lead, mercury, dioxin/furan, hydrogen chloride or ammonia emissions from this furnace/boiler exceed the respective emission limits, as determined through stack testing compliance data, the Permittee shall immediately initiate corrective action to re-attain compliance with this limit and shall report to the Commissioner as required under Part IV.B.1 of this permit.

In the event that SO<sub>2</sub>, NO<sub>x</sub> or CO emissions from this furnace/boiler exceed the respective emission limits, as determined through CEM compliance data, the Permittee shall immediately initiate corrective action to re-attain compliance with this limit and shall report to the Commissioner as required under Part III.E of this permit.

**B. Hazardous Air Pollutants**

This equipment shall not cause an exceedance of the Maximum Allowable Stack Concentration (MASC) for any hazardous air pollutant (HAP) emitted and listed in RCSA §22a-174-29.  
[STATE ONLY REQUIREMENT]

- C.** Demonstration of compliance with the above emission limits shall be determined by calculating the emission rates from the following monitoring requirements:
- PM, hydrogen chloride, cadmium, lead, mercury, dioxin/furan, ammonia: Annual Stack Test, Reference Part VII of this permit
  - SO<sub>x</sub>, NO<sub>x</sub>, CO: Continuous Emission Monitoring, Reference Part III of this permit
  - VOC, All Other HAPs: Initial Stack Test
1. Particulate Matter (PM)
- a. The Permittee shall not emit PM in excess of 25 mg/dscm corrected to 7% O<sub>2</sub> (dry basis). Compliance shall be determined annually based on an arithmetic average determined using all data generated in three test runs, in accordance with RCSA §22a-174-38(i)(4)(A). In the event that the PM emission rate exceeds 0.020 gr/dscf corrected to 12% CO<sub>2</sub> (dry basis), as determined through stack testing compliance data, the Permittee shall cease operation of this furnace. The furnace will be permitted to restart only after the Permittee demonstrates to the Commissioner's satisfaction that sufficient corrective action has been taken. Within three days after restarting operation under this circumstance, the Permittee shall demonstrate in writing to the Commissioner's satisfaction that it is in compliance with

the particulate emission limit.

b. Maximum Allowable Opacity: 10 percent based on a 6-minute block average

2. Sulfur Dioxide (SO<sub>2</sub>)

The Permittee shall not emit SO<sub>2</sub> in excess of 29 ppmvd corrected to 7% O<sub>2</sub> (dry basis) based on a 24-hour daily geometric average or a 75% reduction by weight or volume, whichever is less stringent.

3. Nitrogen Oxides (NO<sub>x</sub>)

Effective August 2, 2017, the Permittee shall not emit NO<sub>x</sub> in excess of 150 ppmvd corrected to 7% O<sub>2</sub> (dry basis) based on a 24-hour block average. Prior to August 2, 2017, the Permittee shall not emit NO<sub>x</sub> in excess of 200 ppmvd corrected to 7% O<sub>2</sub> (dry basis) based on a 24-hour block average.

4. Carbon Monoxide (CO)

The Permittee shall not emit CO in excess of 100 ppmvd corrected to 7% O<sub>2</sub> (dry basis) based on a 4-hour block average.

5. Cadmium (Cd)

The Permittee shall not emit Cadmium in excess of 0.035 mg/dscm corrected to 7% O<sub>2</sub> (dry basis). Compliance shall be determined annually based on an arithmetic average determined using all data generated in three test runs, in accordance with RCSA §22a-174-38(i)(4)(B).

6. Lead (Pb)

The Permittee shall not emit Lead in excess of 0.400 mg/dscm corrected to 7% O<sub>2</sub> (dry basis). Compliance shall be determined annually based on an arithmetic average determined using all data generated in three test runs, in accordance with RCSA §22a-174-38(i)(4)(B).

7. Mercury (Hg)

The Permittee shall not emit Mercury in excess of 0.028 mg/dscm corrected to 7% O<sub>2</sub> (dry basis), or an 85% reduction by weight, whichever is less stringent. Compliance shall be determined annually based on an arithmetic average of emission concentrations or percent reductions determined using all data generated in a minimum of at least three test runs, in accordance with RCSA §22a-174-38(i)(4)(C).

8. Hydrogen Chloride (HCl)

The Permittee shall not emit HCl in excess of 29 ppmvd corrected to 7% O<sub>2</sub> (dry basis) or a 95% reduction by weight or volume, whichever is less stringent. Compliance shall be determined annually based on an arithmetic average of emission concentrations or percent reductions determined using all data generated in three test runs, in accordance with RCSA §22a-174-38(i)(4)(G).

9. Dioxin/Furan

The Permittee shall not emit Dioxin/Furan in excess of 0.000030 mg/dscm corrected to 7%

O<sub>2</sub> (dry basis), total mass (total tetra through octa-dibenzo-p-dioxins and dibenzofurans). Compliance shall be determined annually based on an arithmetic average determined using all data generated in three test runs, in accordance with RCSA §§22a-174-38(i)(3) and 22a-174-38(i)(4)(H).

10. Ammonia

The Permittee shall not emit Ammonia in excess of 18 ppmvd corrected to 7% O<sub>2</sub> (dry basis). Compliance shall be determined annually based on an arithmetic average determined using all data generated in three test runs, in accordance with RCSA §22a-174-38(i)(4)(L).

11. Hazardous Air Pollutants

In the event that any MASC exceedance occurs for any hazardous air pollutant emitted and listed in RCSA §22a-174-29, the Permittee shall take corrective action to achieve the regulatory limit. Additionally, the Permittee shall provide written notification to the Commissioner within three working days of the time at which the Permittee receives information regarding performance test results indicating an exceedance of any hazardous air pollutant listed in Part VII.A of this permit.

## PART VII. STACK EMISSION TEST REQUIREMENTS

Stack emission testing shall be performed in accordance with the [Emission Test Guidelines](#) available on the DEEP website.

Annual stack testing shall be required for the following pollutant(s):

PM    PM<sub>10</sub>    PM<sub>2.5</sub>    SO<sub>2</sub>    NO<sub>x</sub>    CO  
 VOC    Opacity    Other: See A below

### Annual Stack Testing Requirements

- A. The Permittee shall conduct an annual performance test for dioxin/furan, particulate matter, hydrogen chloride, cadmium, lead and mercury in accordance with RCSA §22a-174-38(i). The Permittee shall also conduct an annual performance test for ammonia using Modified EPA Method 26A and in accordance with RCSA §22a-174-38(i).
- B. The Permittee shall complete and submit to the Commissioner an Intent to Test (ITT) form and complete test package no less than 90 days before annual emission testing is scheduled. The Permittee shall submit written notice to the Commissioner three business days before conducting annual emission testing. The ITT shall address the compliance testing of all air pollutants listed in Part VII.A of this permit.

All methods and procedures listed in the ITT shall be consistent with the requirements of the DEEP (pursuant to RCSA §22a-174-38) or equivalent methods approved by DEEP. This ITT shall include provisions for measurement of any and all operational parameters necessary to verify compliance with the terms of this permit. In addition, additional non-criteria pollutant emission rates shall be confirmed during testing, if requested by DEEP.

- C. During the test program the emissions and operating parameters of this equipment shall be measured, monitored and recorded. The operating parameters that shall be recorded during the test program shall include, at a minimum, unit load, furnace temperature as measured at the

superheater outlet and pressure, feedwater temperature, furnace draft, total underfire and overfire air, soot-blowing frequency, auxiliary fuel firing rate, reagent stoichiometry, lime slurry flow rate and application pressure, dilution water flow rate, pressure drop across the baghouses, baghouse inlet temperature, fabric filter cleaning cycle mode, and MSW charging rate, if requested by DEEP.

- D. The compliance tests shall be carried out with the furnace/boiler operating at approximately 100% of the maximum unit load (i.e., maximum rated capacity).
- E. The Permittee shall comply with all applicable notification, testing, and record keeping provisions of RCSA §22a-174-38.
- F. The Commissioner may require the Permittee to conduct additional performance tests if any pollutant emission rate or operational parameter is identified as not being in compliance with any permit condition.

#### **PART VIII. CONTROL EQUIPMENT MALFUNCTION**

In addition to complying with the requirements of RCSA §22a-174-7, the Permittee shall also comply with the following conditions:

- A. Except as otherwise provided in this part, the Permittee shall only be allowed to operate this furnace/boiler during shutdown of air pollution control equipment when there is a malfunction of such air pollution control equipment and as allowed under RCSA §22a-174-7(b). In the event of the malfunction of air pollution control equipment that cannot be corrected within three hours, the Permittee shall immediately institute a furnace shutdown procedure in accordance with the O&M Plan. The period for which the facility will be allowed to operate during shutdown of the air pollution control equipment shall not exceed the burnout of the unit's charge at the time of the shutdown of the air pollution control equipment. No MSW may be charged into the hopper following a shutdown of the air pollution control equipment until after the air pollution control equipment has been put back on-line.
- B. The Commissioner retains authority to take enforcement actions including, but not limited to, requiring shutdown of the facility if the source consistently (as determined by the Commissioner) violates any pollutant emission limit or permit condition.
- C. None of the conditions in this part shall exempt the Permittee from compliance with any other condition of this permit, with any emission limit established in this permit, or with any applicable state or federal regulation.

#### **PART IX. PREMISES REQUIREMENTS**

- A. (State Enforceable Only) The Permittee shall comply with the state odor regulations, as set forth in RCSA §22a-174-23.
- B. (State Enforceable Only) The Permittee shall comply with the state noise control regulations, as set forth in RCSA §§22a-69-1 through 22a-69-7.4.
- C. The Permittee shall institute and comply with the following conditions at all times:
  - 1. Sufficient wind-sheltered storage capacity for refuse, residual particulates and bottom ash on site and provision for landfill disposal of same must be provided for, in the event of strike,

- malfunction of air pollution control equipment, or other interruption.
2. Vehicular traffic areas shall be paved and adequately swept at the plant site.
  3. Ensure that all trucks when loaded with municipal solid waste or any material likely to become airborne are covered at all times while outside the tipping building.
  4. Transfer, storage and transportation at and from the plant site, of materials collected from the furnace grates and air pollution control equipment shall be transferred in a covered container or other method equally effective in preventing the material from becoming airborne during storage and transfer.
  5. The Permittee shall implement a clean up program on the plant site whereby any refuse, MSW or other materials will be collected.
  6. The Permittee shall be subject at all times to the requirements of RCSA §22a-174-18(c), requirements which pertain to the control of fugitive dust emissions.
  7. The public shall not have uncontrolled access to any portion of this premises.

#### **PART X. ENFORCEMENT CONSIDERATIONS**

- A. CEM data, stack testing data and the results of any monitoring and testing of source parameters and emission rates shall, unless otherwise specified in this permit, be used to determine compliance with this permit.
- B. The Permittee shall comply with any and all applicable requirements of the Clean Air Act as amended in 1990 as such requirements become applicable to this facility.
- C. Pursuant to RCSA §22a-6b-602, the Permittee is hereby advised of its liability for assessment of civil penalties for any violation of this permit.
- D. Notwithstanding any other provision of this 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 permit shall preclude the use, including the exclusive use, of any credible evidence or information.

#### **PART XI. ADDITIONAL TERMS AND CONDITIONS**

- A. This permit does not relieve the Permittee of the responsibility to conduct, maintain and operate the regulated activity in compliance with all applicable requirements of any federal, municipal or other state agency. Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.
- B. Any representative of the DEEP may enter the Permittee's site in accordance with constitutional limitations at all reasonable times without prior notice, for the purposes of inspecting, monitoring and enforcing the terms and conditions of this permit and applicable state law.
- C. This permit may be revoked, suspended, modified or transferred in accordance with applicable law.
- D. This 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 conveys no property rights in real estate or material, nor any exclusive privileges, and is further subject to any and all public and private rights

and to any federal, state or local laws or regulations pertinent to the facility or regulated activity affected thereby. This permit shall neither create nor affect any rights of persons or municipalities who are not parties to this permit.

- E.** Any document, including any notice, which is required to be submitted to the Commissioner under this permit shall be signed by a duly authorized representative of the Permittee and by the person who is responsible for actually preparing such document, each of whom shall certify in writing as follows: "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."
- F.** Nothing in this 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, 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.
- G.** Within 15 days of the date the Permittee becomes aware of a change in any information submitted to the Commissioner under this permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the Commissioner.
- H.** The date of submission to the Commissioner of any document required by this permit shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under this permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" means calendar day. Any document or action which is required by this 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.
- I.** Any document required to be submitted to the Commissioner under this permit shall, unless otherwise specified in writing by the Commissioner, be directed to: Office of Director; Engineering & Enforcement Division; Bureau of Air Management; Department of Energy and Environmental Protection; 79 Elm Street, 5th Floor; Hartford, Connecticut 06106-5127.