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).

Owner/Operator	Covanta Southeastern Connecticut, Limited Partnership
Address	132 Military Highway, Preston, CT 06365
Equipment Location	132 Military Highway, Preston, CT 06365
Equipment Description	Deutsche Babcock Anlagen Municipal Solid Waste Fired Furnace/Boiler #2
Town-Permit Numbers	150-0002
Premises Number	012
Stack Number	001
Modification Issue Date	April 17, 2018
Prior Permit Issue Dates	06/14/2013 08/24/2012 12/22/2003 12/12/1988
Expiration Date	None

/s/ Robert E. Kaliszewski
Robert E. Kaliszewski
Deputy Commissioner

4/17/18
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. OPERATIONAL CONDITIONS

A. Operational Parameters

1. Furnace/Boiler
   a. Materials Charged:
      i. Municipal Solid Waste (MSW) as defined and restricted in CGS §22a-207 et seq. and any applicable Bureau of Waste Management permit.
      ii. Special waste as defined in RCSA §22a-209-1 and in accordance with the Permittee's most current approved Special Waste Disposal Authorization(s) issued pursuant to CGS §22a-208y.
   b. Maximum Facility MSW Processing Rate (tons per calendar year): 251,485
      The Maximum Facility MSW Processing Rate shall be adjusted in accordance with the equations set forth in Appendix G of this permit.
   c. Maximum Hours of Operation: Daily: 24; over any consecutive twelve 12-month period: 8760

2. Auxiliary Fuel System
   a. Fuel Type: No. 2 Fuel Oil

3. Non-Hazardous Industrial Wastewater and Landfill Leachate Reuse and Recycling:
   a. Wastewater from industrial sources and Landfill leachate from either a municipal solid waste or ash landfill may be reused and/or recycled to supplement the process water needs of the facility. The industrial wastewater and landfill leachate shall be used for dilution water in the selective non-catalytic reduction (SNCR) control device and in the spray dryer absorbers, in the ash quenching system, in the pug mill for dust suppression and any other facility operation, which has been approved by the commissioner.
   b. Industrial wastewater shall not exceed 28,000 gallons per day in the SNCR. In addition, the combination of industrial wastewater and landfill leachate use in the spray dryer absorber, ash quench and pugmill shall not exceed 35,000 gallons per day or 9,100,000 gallons per year.
   c. Samples of each source of industrial wastewater and the leachate reused at the facility shall be analyzed by a laboratory, certified by the Department, every six months with the first delivery. These test analyses shall include concentrations of Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel, Vanadium, Zinc, Total Dissolved Solids (TDS), Total Suspended Solids (TSS) and Total Volatile Organic Compounds (VOC).

4. Baghouse Inlet Temperature: The Permittee shall not cause or allow such unit to operate at a temperature, measured at each particulate control device inlet, more than seventeen 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. Unit Load: 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)]

6. The Permittee may, during the annual dioxin/furan emissions performance test and for two weeks prior to such test, allow temperatures and unit load in excess of the limits, found in Parts I.A.4 & 5 of this permit. Should the unit be operated at such excess temperatures and load, the owner or operator shall not again be allowed to operate at such excess temperatures and load during that test period without the approval of the commissioner should the annual dioxin/furan emission performance test be postponed. [RCSA §22a-174-38(g)(3)]

7. Carbon Injection: During operation of the MWC unit, the carbon injection system operating parameter(s) that is the primary indicator(s) of the carbon mass fee rate (e.g., screw feeder setting) shall be averaged over a block 8-hour period, and the 8-hour block average shall equal or exceed the level(s) documented during the performance tests specified in RCSA §22a-174-38(i).

8. Notwithstanding RCSA §22a-174-38(g)(5), the Permittee may, during the annual dioxin/furan or mercury performance test and the two weeks preceding the annual dioxin/furan or mercury performance test, no limit is applicable for the average mass carbon feed rate if the provision of RCSA §22a-174-38(g)(4) are met.

B. Design Specifications

1. Furnace/Boiler
   a. Design Charge Rate (tons MSW per day): 344.5
      (The design charging rate of MSW is based upon the design heat input rate of 143,541,000 BTU/hr/boiler and a design higher heating value of 5,000 BTU/lb of MSW.)
   b. Design Heat Input Rate (BTU/hr): 143,541,000
   c. Design Steam Flow Rate (lb/hr): 91,734 @ 900 psig and 865°F

2. Auxiliary Burner System: The auxiliary burner system shall have the capability of raising combustion gas temperatures to 1800^0F for a combustion residence time of at least one second, except during periods of start-up, warm-up, shutdown, and malfunction as defined in RCSA §22a-174-38. The auxiliary system shall be capable of maintaining a minimum combustion gas temperature of 1500^0F after secondary air injections for at least one second.

a. Start-up Burners (2)
   1. Type of Fuel: No. 2 fuel oil
   2. Maximum Firing Rate (gals/hr): 153.8 (each)
   3. Maximum Gross Heat Input (BTU/hr): 21,439,600 (each)

b. Ignition Burners (2)
   1. Type of Fuel: No. 2 fuel oil
   2. Maximum Firing Rate (gals/hr): 76.9 (each)
   3. Maximum Gross Heat Input (BTU/hr): 10,719,800 (each)

3. Stack Parameters
   a. Minimum Stack Height (ft above grade): 240
   b. Design Exhaust Gas Flow Rate (acfm): 66,500 (wet) @ 260 ^{0}F
   c. Normal Exhaust Gas Temperature (^{0}F): 260-350
   d. Minimum Distance from Stack to Nearest Property Line (ft): 108

4. This equipment must be equipped with automatic controls for the regulation of combustion; for example, air distribution and combustion gas temperature controls.

PART II. CONTROL EQUIPMENT (Applicable if -X- checked)
(See Appendix E of this permit for Design Specifications)

☒ SNCR
☒ Fabric Filter
☒ Carbon Injection System
☒ Other: Spray Dryer Absorber, Carbon Injection System

PART III. CONTINUOUS EMISSION MONITORING REQUIREMENTS AND ASSOCIATED EMISSION LIMITS

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	six minute block	10%	
SO_2	24 hour geometric mean	29[1]	ppmvd @12% CO_2
NOx	24 hour daily average	150	ppmvd @12% CO_2
CO	4 hour block	100	ppmvd @12% CO_2
CO_2	1 hour block		
Unit Load	4 hour block		
Baghouse Inlet Temperature	4 hour block		
Furnace Temperature	4 hour block		
Activated Carbon Injection Rate	8 hour block		

[1] Or a 75% reduction by weight or volume, whichever is less stringent.

A. The Permittee shall install and operate continuous emission monitoring systems to monitor opacity, sulfur dioxide (SO_2), nitrogen oxides (NOx) as nitrogen dioxide (NO_2), carbon monoxide (CO) and carbon dioxide (CO_2) and record the output of each system in accordance with RCSA §22a-174-38(k).

B. The Permittee shall 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,

pressure drop across baghouse, baghouse inlet temperature, and the powdered activated carbon injection rate, as estimated from the screw feeder speed indicator.

C. All CEM equipment and recorders shall be installed, operated, calibrated, tested and maintained in a manner that demonstrates compliance with siting, performance and quality assurance specifications stated in 40 CFR Part 60, Appendices B and F and RCSA §22a-174-38(j).

PART IV. MONITORING, RECORD KEEPING AND REPORTING REQUIREMENTS

(Also see NSPS 40 CFR Part 60 Subpart Cb)

A. The Permittee shall make and keep records summarizing:

1. The annual quantity of MSW combusted for the facility.

2. The annual quantity of Special Waste combusted for the facility.

3. The annual quantity of No. 2 fuel oil combusted for the furnace/boiler, using either fuel purchase receipts or a non-resettable totalizing fuel meter.

4. All CEM data required in Part III of this permit.

B. The Permittee shall monitor and record the daily charging rate and hours of operation.

C. The Permittee shall record and maintain records of the amounts of each fuel combusted during each day.

D. The Permittee shall monitor and record the daily and annual quantity of industrial wastewater and landfill leachate reuse and recycling for the facility, including the locations of each source of industrial wastewater or landfill leachate that is used at the facility.

E. The Permittee shall make and keep records of each delivery of non-hazardous industrial wastewater and landfill leachate, not limited to include the source of the wastewater or leachate, the quantity in gallons, methods used to determine acceptability for use in the facility and the sample testing in Part I.A.3.c of this permit if applicable.

F. The Permittee shall make and keep records of all annual performance tests conducted to determine compliance with the dioxin/furan, particulate matter, hydrogen chloride, cadmium, lead, mercury, and ammonia emission limits.

G. 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.

H. The Permittee shall calculate the actual stack concentration (ASC), including the contribution to the ASC from industrial wastewater and landfill leachate reuse. The Permittee shall make and keep records of the ASC using best engineering judgment, stack test, sample testing or other engineering methods.

I. The Permittee shall calculate the total facility VOC and PM emissions, including the contribution from the VOC and PM content for the industrial wastewater and landfill leachate reuse on site, on a 12-month rolling basis.

J. The Permittee shall make and keep records for operator training in accordance with RCSA §22a-174-38(k)(2).

K. The Permittee shall monitor the carbon mass feed rate for the carbon injection system and manual feed. The Permittee shall make and keep records for the carbon injection system in accordance with RCSA §22a-174-38(k)(11)].

L. The Permittee shall keep records of the daily hours of operation, in which periods of startup, shutdown and malfunction are distinguished.

M. The Permittee shall keep all records required by this permit on the premises for a period of no less than five years and shall submit such records to the commissioner upon request.

N. The Permittee shall submit reports to the commissioner of all required performance tests.

O. The Permittee shall submit a quarterly report to the commissioner within 30 days following the end of the each calendar quarter. Each quarterly report shall include the information required in RCSA §22a-174-38(l)(2).

P. The Permittee shall report all CEM data, except opacity, to the commissioner on a quarterly basis in accordance with RCSA §22a-174-38(*l*).

Q. 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, dioxin/furan, hydrogen chloride or fugitive ash emission levels exceed the applicable pollutant emission limits or standards defined in RCSA §22a-174-38.

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 section 22a-231-1 of the Regulations. [RCSA §22a-174-38(h)(2)] All chief operators and shift operators must satisfactorily complete an operator training course conducted by the commissioner pursuant to RCSA §22a-174-38(h)(3). The 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 that shall be updated on a yearly basis. [RCSA §22a-174-38(h)(4)] This manual shall include the use and determination of the non-hazardous industrial wastewater and landfill leachate reuse and recycling at the facility. 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.

A. TABLE 1 - Mass Emission Limits

Criteria Pollutants	lb/hr[1]	tpy[1]
PM	7.68	26.7
PM_{10}	7.68	26.7
SO_2	80.0	350.4
NOx	152.4	665.8
VOC/HC	10.4	45.6
CO	62.44	141.0
Pb	0.121	0.532

Non-Criteria Pollutants	lb/hr[1]	tpy[1]
Sulfuric Acid (H_2SO_4)	5.2	22.778
Hydrogen Fluoride (HF)	0.6666	2.916
Mercury (Hg)	0.104	0.290
HCl	22.674	99.316
Dioxin/Furan	9.9e-7	4.3e-6

[1] Total emissions for both furnace/boilers, Permit Nos. 150-0001 and 150-0002

B. TABLE 2 – RCSA §22a-174-38 Limits

Pollutant	mg/dscm @12% CO_2	ppmvd @12% CO_2
PM	25	
SO_2		29[1]
NOx		150[2]
CO		100[3]
Pb	0.400	
Cadmium (Cd)	0.035	
Mercury (Hg)	0.028[4]	
HCl		29[5]
Dioxin/Furan	0.00003	

[1] Based on a 24-hour daily geometric average or 75% reduction by weight or volume, whichever is less stringent
[2] Based on a 24-hour daily average
[3] Based on a 4-hour block arithmetic average
[4] Or 85% reduction by weight, whichever is less stringent
[5] Or 95% reduction by weight or volume, whichever is less stringent

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, 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.
- During a loss of boiler water level control or a loss of combustion air control malfunction period, a diluent cap of fourteen percent for oxygen or five percent for carbon dioxide may be used in the emissions calculations for sulfur dioxide and nitrogen oxides as specified in RCSA §22a-174-38(j)(3).

In the event that particulate matter, cadmium, lead, mercury, dioxin/furan or hydrogen chloride 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.

C. 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 Section 22a-174-29. [STATE ONLY REQUIREMENT]

Demonstration of compliance with the emission limits in this Part may be met by calculating the emission rates from the following sources:

- PM, hydrogen chloride, cadmium, lead, mercury, dioxin/furan, ammonia: annual stack test, See Part VII of this permit.
- SOx, NOx, CO: Continuous Emissions Monitoring, See Part III of this permit.
- MASC: Latest stack test or AP-42, Fifth Edition, Volume I Chapter 2; Solid Waste Disposal

The commissioner may require other means (e.g. stack testing) to demonstrate compliance with the above emission limits, as allowed by state or federal statute, law or regulation.

A. Particulate Matter

1. Particulate matter (PM) shall be limited to a maximum emission rate of 25 mg/dscm corrected to 12% CO_2 (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).

2. In the event that the PM emission rate exceeds 0.020 gr/dscf corrected to 12% CO_2 (dry basis), as determined through stack testing compliance data, the Permittee shall cease feeding MSW into the hopper and shall not resume operation until compliance measures have been completed.

3. Maximum Allowable Opacity: 10% based on a six minute block average, and 40% instantaneous. Instantaneous is defined as one ten second period including sampling, analyzing, and data recording.

4. If opacity exceeds 40% based on a 30 minute rolling average, the Permittee shall cease feeding MSW into the hopper and shall not resume operation until compliance measures have been completed.

B. Sulfur Dioxide (SO_2)

1. Sulfur dioxide (SO_2) shall be limited to a maximum emission rate of 29 ppmvd @12% CO_2 (dry basis) or a SO_2 control efficiency of 75% by weight or volume for the spray dryer absorber, whichever is less stringent, based on a 24 hour daily geometric average.

2. During any period that the scrubber is malfunctioning, the SO_2 emissions from this source shall not exceed 1.1 lb/MMBTU heat input, based on a three hour rolling average.

3. In the event that SO_2 emissions exceed 1.1 lb/MMBTU heat input, based on a three hour rolling average, the Permittee shall cease feeding MSW into the hopper and shall not resume operation until compliance measures have been completed.

C. Nitrogen Oxides (NOx)

NOx shall be limited to a maximum emission rate of 150 ppmvd @12% CO_2 (dry basis), based on a 24 hour daily average.

D. Carbon Monoxide (CO)

CO shall be limited to an emission rate of 100 ppmvd @12% CO_2 (dry basis), based on a four hour block arithmetic average.

E. Cadmium (Cd)

Cadmium shall be limited to a maximum concentration of 0.035 mg/dscm @12% CO_2 (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).

F. Lead (Pb)

Lead shall be limited to a maximum concentration of 0.400 mg/dscm @12% CO_2 (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).

G. Mercury (Hg)

Mercury shall be limited to a maximum concentration 0.028 mg/dscm @12% CO_2 (dry basis), or 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).

H. Hydrogen Chloride (HCl)

HCl shall be limited to a maximum emission rate of 29 ppmvd @12% CO_2 (dry basis) or reduced a minimum of 95% 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).

I. Dioxin/Furan

Dioxin/furan shall be limited to a maximum concentration of 30 ng/dscm @12% CO_2 (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)(4)(H).

J. Non-Criteria Pollutants

In the event that any MASC exceedance occurs, the Permittee shall take corrective action to achieve the permitted emission limit. 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 that the stack concentration levels exceed the MASC limits.

K. Ammonia

Ammonia shall not exceed a maximum emission limit of 20 ppmvd @ 7% corrected to 12% CO_2 (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).

PART VII. STACK EMISSION TEST REQUIREMENTS

A. Stack emission testing shall be performed in accordance with the Emission Test Guidelines available on the DEEP website.

B. The Permittee shall conduct an annual performance test for dioxin/furan, particulate matter, hydrogen chloride, cadmium, lead, mercury, and ammonia at least once per calendar year.

C. Such annual test shall be conducted no less than nine calendar months and no more than 15 calendar months following the previous performance test in accordance with RCSA §22a-174-38(i)(2).

D. 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 permit or in RCSA §22a-174-38, 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) of the Regulations. 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 furnace/boiler'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.

In the event of a malfunction of this unit's acid gas control system, the baghouse must function properly and be adequately protected from the boiler/furnace's combustion gases.

B. 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 weather-sheltered storage capacity for residual particulates, bottom ash and dry scrubber residue shall be provided on the premises.

2. All vehicular traffic areas of the premises shall be paved.

3. Transfer, storage, and transportation at and from the premises, of materials collected from the furnace/boiler 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.

4. The Permittee shall implement a clean-up program on the premises whereby any refuse, MSW or other materials will be collected.

5. The public shall not have uncontrolled access to any portion of this premises.

6. The Permittee shall be in compliance with the requirements of RCSA §22a-174-18(c), requirements which pertain to the control of fugitive dust emissions.

PART X. ENFORCEMENT CONSIDERATIONS

A. CEM data and performance testing data shall, unless otherwise specified in this permit, be used to determine compliance with the pollutant emission limits in this permit.

B. Pursuant to §22a-6b-602(f)(1) of the Regulations, the Permittee is hereby advised of its liability for assessment of civil penalties for any violation of this permit.

C. 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. SPECIAL REQUIREMENTS

The Permittee shall comply with all applicable sections of the following New Source Performance Standard(s) at all times. (Applicable if checked)

40 CFR Part 60, Subpart ☒ A ☒ Cb

Copies of the Code of Federal Regulations (CFR) are available online at the U.S. Government Printing Office website.

PART XII. 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 fifteen 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.

Appendices attached (Applicable if -X- checked):

☐ A Continuous Emission Monitoring Requirements

☐ B Stack Emission Test Requirements

☐ C New Source Performance Standards

☐ D National Emission Standards for Hazardous Air Pollutants

☒ E Control Equipment Design Specifications

☐ F Residence Time/Temperature Calculation Procedure

☒ G Equation for Adjustment of the Maximum Facility MSW Processing Rate

APPENDIX E
Control Equipment Design Specifications

Air Pollution Control Equipment (applicable if –X- checked).

☐ None

☒ Spray Dryer Absorber

Make and Model:	FLAKT
Lime Usage:	100 - 500 lbs/hr[3]
Water Usage:	6,000 – 12,000 lbs/hr[3]
Inlet Gas Temperature:	400 - 600°F[3]
Design Removal Efficiency (%):	N/A

☒ Fabric Filter: 6 compartments @4030 ft[2] each –5 operational, 1 spare. The baghouse bypass damper shall be rendered inoperative and secured in the closed position thereby preventing baghouse bypass at all times. The particulate control system shall be designed to achieve an emission limit of 0.010 grains/dscf corrected to 12% CO_2 (dry basis).

Make and Model:	FLAKT
Air/Cloth Ratio:	3.6:1 (varies with air flow)
Bag Material:	Woven fiberglass or other material
Cleaning Method:	Automatic
Pressure Drop Across Baghouse (inches H_2O):	6.0 – 10.0[3]
Design Removal Efficiency:	> 99.0%

☒ Powdered Activated Carbon Injection System[1, 3]:

Make and Model:	Norit Americas, Inc.
Control Reagent:	Powdered Activated Carbon
Reagent Injection Rate:	0 – 25 pounds per hour[2]
Design Removal Efficiency:	85%

[1] In the event of malfunction of the PACI system, powdered activated carbon may be added manually.

[2] Operational parameters required to achieve maximum mercury reduction will be established by stack test results.

[3] These Operational parameters are considered the typical value or range, which is subject to change during the course of normal operation.

APPENDIX G
Equations for Adjustment of the Maximum Facility MSW Processing Rate

The Maximum Facility MSW Processing Rate (P) as specified in Part I.A.1.b. of this permit shall be adjusted for water content and calculated using the following equation:

$$P = 251{,}485\ (5000/HHV)$$

The Facility Annual Average Higher Heating Value (HHV) of the Waste Processed shall be calculated using the following equations:

$$HHV = (SSR \times 1317) + 960$$
$$SSR = (ASTM/WP)$$
$$ASTM = 0.98 \times (STM - FA)$$

Where:

P is the Maximum Facility MSW Processing Rate adjusted for water content in tons MSW per calendar year.

251,485 is the Maximum Facility MSW Processing Rate in tons MSW per calendar year.

5000 is the Facility Design Higher Heating Value in BTU/lb MSW.

HHV is the Facility Annual Average Higher Heating Value in BTU/lb MSW.

SSR is the Facility Annual Specified Steam Ratio which is determined by dividing the Facility Annual Adjusted Steam Flow (ASTM) by the Facility Annual MSW Combusted (WP) during the applicable year expressed in lb steam/lb MSW.

1317 & 960 are constants developed through linear regression analysis and formalized in the Service Agreement with the Southeastern Connecticut Regional Resource Recovery Authority (SCRRRA), dated February 2, 1994. The value 1317 is the slope of the linear regression line expressed in BTU/lb steam. The value 960 is the linear regression intercept expressed in BTU/lb MSW.

ASTM is the Facility Annual Adjusted Steam Flow in pounds of steam per calendar year corrected for soot blowing and other allowances (that may include boiler blowdown activities and miscellaneous boiler vents and drains).

WP is the Facility Annual MSW and Special Waste Combusted in pounds per calendar year. WP is determined by summing the Facility annual truck scale house weight data corrected for the net changed in refuse pit inventory on hand at first and the last day of the calendar year less separated pre and post combustion scrap metal, oversized MSW, bulky waste, and rejected wastes.

0.98 is the Adjustment Factor for soot blowing and other allowances (that may include boiler blowdown activities and miscellaneous boiler vents and drains).

STM is the Facility Annual Steam Flow in pounds of steam per calendar year measured by totaling the boiler steam meters.

FA is the Facility Annual Fuel Adjustment in pounds of steam per calendar year calculated as the sum of the following:
Pounds of Steam = GAL x 92 lbs steam/gallon of fuel oil

GAL is the Facility Annual fuel oil combusted in gallons per calendar year.