



State Permit to Operate

Facility ID No: **3300900011**
Permit No: **PO-C-0382**
County: **Grafton**
Date Issued: **September 19, 2005**

This certifies that:

Hebron Bridgewater Refuse District
has been granted a State Permit to Operate for a:

Municipal Waste Incinerator
290 Dick Brown Road, Bridgewater, NH

which is a device that emits air pollutants into the ambient air as set forth in permit application filed with the New Hampshire Department of Environmental Services, Air Resources Division (Division) on **May 2, 2005**, in accordance with RSA 125-C of the New Hampshire Laws. Request for permit renewal is due to the Division at least 90 days prior to expiration of this permit and must be accompanied by the appropriate permit application forms. This permit is valid upon issuance and expires **September 30, 2010**.

This permit is valid provided that the device is operated in accordance with all the legally enforceable conditions specified within this permit:

- I.** The Owner or Operator shall be subject to all applicable state and federal air pollution control regulations, including (but not limited to) the New Hampshire Code of Administrative Rules Env-A 100 *et seq.*, *New Hampshire Rules Governing the Control of Air Pollution*.
- II.** All equipment, facilities and systems installed and used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible to minimize air pollutant emissions.

SEE ATTACHED SHEETS FOR ADDITIONAL PERMIT CONDITIONS

The Owner or Operator of the device covered by this permit shall submit a written request for a permit amendment to the Division at least 90 days prior to the implementation of any proposed change (that would require a modification to this permit) to the physical structure or operation of the device covered by this permit which increases the amount of a specific air pollutant currently emitted by such device or which results in the emission of any regulated air pollutant currently not emitted by such device. The change shall not take place until a new permit application is submitted and acted upon by the Division pursuant to Env-600.

This permit (or a copy) should be appropriately displayed near the device for which it is issued.



Director
Air Resources Division

Abbreviations and Acronyms

AAL	Ambient Air Limit	RTAP	Regulated Toxic Air Pollutant
CO	Carbon Monoxide	SO ₂	Sulfur Dioxide
HAP	Hazardous Air Pollutants	tpy	Tons per consecutive 12-Month Period
hr	hour	TSP	Total suspended particulate
lb	pound	USEPA	United States Environmental Protection Agency
NO _x	Oxides of Nitrogen	VOC	Volatile Organic Compounds
PM ₁₀	Particulate Matter < 10 microns		

III. Operating Conditions

- A. This permit covers the ACS Municipal Waste Incinerator, model number CA-750 MSW, serial number 8171.
- B. This device shall be limited to burning type 0, 1 and 2 wastes as defined in Env-A 101.283 through 285, *Definitions*, at a maximum rate of 750 lb/hr, which is the capacity of the device.
- C. Env-A 1400, *Regulated Toxic Air Pollutants*: Emissions of Regulated Toxic Air Pollutants (RTAPs) from the Incinerator shall be controlled in accordance with Condition V in order to maintain compliance with Condition IV.D.
- D. Env-A 1906.01, *Name Plate and Instruction Posting Requirements*: The Owner or Operator shall post the following information in a conspicuous place on or near the incinerator:
 1. The manufacturer's name plate giving model number, rated capacity, and the types of waste for which the device is designed; and
 2. Detailed instructions for the operation of the incinerator.
- E. Env-A 1906.02, *Trained and Competent Operator Required*: A trained and competent operator shall be in charge of this device at all times of its operation.
- F. The incinerator shall be warmed up to a minimum secondary temperature of 1800°F prior to the introduction of any waste into the primary chamber.
- G. The primary chamber temperature of the Incinerator shall be set at 1200°F, and the secondary chamber shall be set at 1825°F.
- H. The Owner or Operator shall conduct continuous monitoring of the primary and secondary chambers of the Incinerator.
- I. Burn-down procedures shall follow the manufacturer's instructions.

IV. Emission Limitations

- A. Env-A 1904.02, *Emission Standards for Incinerators Constructed, Installed, or Substantially Altered after April 15, 1970*: The emissions of total suspended particulates (TSP) from the incinerator shall be limited to 0.2 grains per standard cubic foot of dry flue gas corrected to 12 percent carbon dioxide, without the contribution of carbon dioxide from auxiliary fuel.
- B. Env-A 1903.01, *Visible Emission Standard for Incinerators and Wood Waste Burners*: The opacity of emissions from the incinerator shall not exceed an average of 20 percent for any continuous 6-minute period except for one period of 6 continuous minutes in any 60-minute period during startup, shutdown or malfunction.¹

¹ Compliance with visible emission limitations is to be determined using the Code of Federal Regulations, 40 CFR, Appendix A, Method 9.

IV. Emission Limitations (continued)

C. Hourly and annual emissions from the Incinerator, shall be limited as provided in Table 1, below:

Table 1 Emission Limitations for Criteria Pollutants²				
	CO	NO_x	SO₂	PM₁₀
Hourly Emission Limitations (lbs/hr)				
Incinerator	0.11	1.9	1.8	0.24
Annual Emission Limitations (tpy)³				
Incinerator	0.48	8.32	7.88	1.05

D. Env-A 1400: Facility-wide emissions of any RTAP shall not cause an exceedance of its associated 24-hour or annual Ambient Air Limit (AAL) as set forth in Env-A 1450, *Table Containing the List Naming All Regulated Toxic Air Pollutants*.

V. Air Pollution Control Equipment

The Owner or Operator shall operate a wet fume scrubber minimize the emissions of RTAPs and meet permit conditions. The control equipment shall be maintained in good working order and, at a minimum, the maintenance and monitoring requirements in Table 2 shall be performed.

Table 2 Air Pollution Control Equipment Maintenance and Monitoring Requirements		
Control Equipment	Maintenance Requirements	Monitoring Requirements
Wet Fume Scrubber	Maintain the scrubber in a manner consistent with manufacturer’s recommendations. Inspect the scrubber if conditions indicate that the scrubber may need maintenance, but at least annually. The inspection shall be conducted by plant personnel familiar with the operation of the scrubber and connected equipment.	The Owner or Operator shall conduct continuous monitoring of the pH of the scrubber liquid, the pressure drop across the scrubber and the scrubber water flow rate. The scrubber liquid shall be maintained at a pH of between 6.5 and 9.0. The pressure drop across the scrubber shall be between 22.5 and 27.5 inches of mercury. The minimum scrubber water flow rate shall be 54 gallons per minute.

VI. Stack Testing Requirements

When conditions warrant, the Division may require the Owner or Operator to conduct stack testing in accordance with USEPA or other Division approved methods.

2 The emissions of NO_x and PM₁₀ in Table 1 are set based on the results of stack testing conducted in February 2005, emissions of SO₂ are based on stoichiometric combustion calculations, and emissions of CO are based on United States Environmental Protection Agency (USEPA) AP-42 (5th Edition 1/95, updated 10/96), Section 2.1, *Refuse Combustion*. Compliance with emission limitations found in this section is to be verified using waste combusted records and the appropriate emission factors.

3 The Facility does not have the potential to emit criteria pollutants at levels greater than major source thresholds. The Facility is classified as a true minor source.

VII. Stack Criteria

The Incinerator shall have exhaust stacks that discharge vertically, without obstruction, and meet the criteria in Table 2.

Table 2 Stack Criteria		
Stack	Minimum Height (feet above ground surface)	Maximum Exit Area (square feet)
Incinerator Stack	40	4.15
Scrubber Stack	40.5	0.79

VIII. Stack Testing Requirements

When conditions warrant, the Division may require the Owner or Operator to conduct stack testing in accordance with USEPA or other Division approved methods.

IX. Recordkeeping Requirements

- A. Env-A 902, *Availability of Records*: The Owner or Operator shall keep the records required by this permit on file for a minimum of 5 years. These records shall be available for review by the Division upon request.
- B. Except for information that meets the criteria of Env-A 103, *Claims of Confidentiality*, all data submitted to the Division, including emission data and applicable emission limitations, shall be available to the public.
- C. The Owner or Operator shall maintain daily records of Incinerator operation, including the following data:
 1. Operator's name;
 2. Current date;
 3. Identify discharge stack;
 4. Weight of each charge;
 5. Time of day (hour: minute) when the incinerator is charged;
 6. Primary and secondary chamber combustion temperatures;
 7. Pressure drop across the scrubber, pH of the scrubber liquid and the scrubber water flow rate; and
 8. Daily throughputs of waste burned, identified by type, in tons per day.
- D. Env-A 1406.01, *Methods of Demonstrating Compliance*: The Owner or Operator shall maintain records demonstrating compliance with the most recent list of RTAPs and associated AALs presented in Env-A 1450.

X. Reporting Requirements

Env-A 907.01, *General Reporting Requirements*:

- A. The Owner or Operator shall submit an annual emissions report to the Division on or before April 15th of the following year. For example, the annual emissions report for calendar year 2005 shall be submitted on or before April 15, 2006.
- B. The annual emissions report shall include the following information:
 - 1. Actual calendar year emissions from the Incinerator of NO_x, CO, PM₁₀, SO₂ and RTAPs (speciated by individual RTAP),
 - 2. The methods used in calculating such emissions in accordance with Env-A 704.02, *Determination of Actual Emissions for use in Calculating Emission-Based Fees*; and
 - 3. The amount of waste combusted, compiled on a monthly basis.

XI. Permit Deviation Recordkeeping and Reporting Requirements

- A. Env-A 101, *Definitions*:
 - 1. A *permit deviation* is any occurrence that results in an excursion from any emission limitation, operating condition, or work practice standard as specified in this permit.
 - 2. An *excess emission* is an air emission rate which exceeds any applicable emission limitation.
- B. Env-A 911.04(b), *Reporting Requirements*: In the event of a permit deviation that causes excess emissions, the Owner or Operator shall notify the Division of the permit deviation and excess emissions by telephone (603-271-1370), fax (603-271-7053) or e-mail (pdeviations@des.state.nh.us), within 24 hours of discovery of the permit deviation, unless it is a Saturday, Sunday, or state or federal legal holiday, in which event, the Division shall be notified on the next day which is not a Saturday, Sunday, or state or federal legal holiday.

XII. Emission-Based Fee Requirements

- A. Env-A 705.01, *Emission-based Fees*: The Owner or Operator shall pay to the Division each year an emission-based fee for emissions from the devices listed in Condition III.A.
- B. Env-A 705.02, *Determination of Actual Emissions for use in Calculating of Emission-based Fees*: The Owner or Operator shall determine the total actual annual emissions from the devices listed in Condition III.A for each calendar year in accordance with the methods specified in Env-A 616, *Determination of Actual Emissions*. If the emissions are determined to be less than one ton, the emission-based fee shall be calculated using an emission-based multiplier of one ton.
- C. Env-A 705.03, *Calculation of Emission-based Fees*: The Owner or Operator shall calculate the annual emission-based fee for each calendar year in accordance with the procedures specified in Env-A 705.03 and the following equation:

$$\text{FEE} = \text{E} * \text{DPT}$$

Where:

- FEE = The annual emission-based fee for each calendar year as specified in Env-A 705.
- E = Total actual emissions as determined pursuant to Condition XIII.B.
- DPT = The dollar per ton fee calculated by the Division as specified in Env-A 705.03(b).

- D. Env-A 705.04, *Payment of Emission-based Fee*: The Owner or Operator shall submit, to the Division, payment of the emission-based fee by April 15th for emissions during the previous calendar year. For example, the emission-based fee for calendar year 2005 shall be submitted on

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or before April 15, 2006