

15 April 2005

Claude Cote
Director of Regulatory Compliance and Planning
Rhode Island Resource Recovery Corporation
65 Shun Pike
Johnston, RI 02919-4512

Dear Mr. Cote:

The Department of Environmental Management, Office of Air Resources has reviewed and approved your applications for the installation of fuel burning equipment at your facility located at 65 Shun Pike, Johnston.

Enclosed is a minor source permit issued pursuant to our review of your application (Approval Nos. 1838-1841).

If there are any questions concerning this permit, please contact me at 222-2808, extension 7011.

Sincerely,

Douglas L. McVay
Associate Supervising Engineer
Office of Air Resources

cc: Johnston Building Official
Mike North - GZA

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR RESOURCES

MINOR SOURCE PERMIT

RHODE ISLAND RESOURCE RECOVERY CORPORATION

APPROVAL NOs. 1838-1841

Pursuant to the provisions of Air Pollution Control Regulation No. 9, this minor source permit is issued to:

Rhode Island Resource Recovery Corporation

For the following:

Installation of four diesel-fired engines to drive grinding equipment. Compost Grinder 1

is powered by an 800 HP Caterpillar Model 3412C diesel engine (Approval No. 1838).

Compost Grinder 2 is powered by a 1000 HP Caterpillar Model 3412E diesel engine

(Approval No. 1839). RecoverMat 1 is powered by an 880 HP Caterpillar Model 3412C

diesel engine (Approval No. 1840). The trommel screener is powered by a 140 HP Deutz

Model BF6L913 diesel engine (Approval No. 1841). All engines shall be fired with low sulfur

diesel fuel oil.

Located at: *65 Shun Pike, Johnston*

This permit shall be effective from the date of its issuance and shall remain in effect until revoked by or surrendered to the Department. This permit does not relieve *Rhode Island Resource Recovery Corporation* from compliance with applicable state and federal air pollution control rules and regulations. The design, construction and operation of this equipment shall be subject to the attached permit conditions and emission limitations.

**Stephen Majkut, Chief
Office of Air Resources**

Date of Issuance

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR RESOURCES**

Permit Conditions and Emission Limitations

RHODE ISLAND RESOURCE RECOVERY CORPORATION

APPROVAL NOs. 1838-1841

A. Emission Limitations

1. Compost Grinder 1

a. Nitrogen oxides (as Nitrogen dioxide (NO₂))

The emission rate of nitrogen oxides discharged to the atmosphere from the 800 HP engine shall not exceed 7.1 grams/bhp-hr unless the rate of emissions is less than 12.5 lbs/hr.

b. Carbon Monoxide (CO)

The emission rate of carbon monoxide discharged to the atmosphere from the 800 HP engine shall not exceed 1.7 grams/bhp-hr unless the rate of emissions is less than 3.04 lbs/hr.

c. Total Nonmethane Hydrocarbons (NMHC)

The emission rate of total nonmethane hydrocarbons discharged to the atmosphere from the 800 HP engine shall not exceed 0.16 grams/bhp-hr unless the rate of emissions is less than 0.28 lbs/hr.

d. Sulfur Dioxide (SO₂)

(1) The sulfur content of all diesel fuel burned in the 800 HP engine shall not exceed:

(a) 500 ppm by weight on or before May 31, 2010.

(b) 15 ppm by weight on or after June 1, 2010.

(2) The emission rate of sulfur dioxide discharged to the atmosphere from the 800 HP engine shall not exceed:

(a) 0.28 lbs/hr on or before May 31, 2010.

(b) 0.008 lbs/hr on or after June 1, 2010.

On or after June 1, 2010, the Office of Air Resources may relax conditions A.1.d.(1)(b) and A.1.d.(2)(b) if the owner/operator can demonstrate that a shortage of diesel fuel meeting the 15 ppm sulfur content requirement exists.

e. Particulate Matter (PM)

The emission rate of particulate matter discharged to the atmosphere from the 800 HP engine shall not exceed 0.45 grams/bhp-hr unless the rate of emissions is less than 0.79 lbs/hr.

f. Opacity

Visible emissions from the 800 HP engine shall not exceed 10% opacity except for a period or periods aggregating no more than three minutes in any one hour. This visible emission limitation shall not apply during startup of an engine. Engine startup shall be defined as the first five minutes of firing following the initiation of firing.

2. Compost Grinder 2

a. Nitrogen oxides (as Nitrogen dioxide (NO₂))

The emission rate of nitrogen oxides discharged to the atmosphere from the 1000 HP engine shall not exceed 8.8 grams/bhp-hr unless the rate of emissions is less than 19.5 lbs/hr.

b. Carbon Monoxide (CO)

The emission rate of carbon monoxide discharged to the atmosphere from the 1000 HP engine shall not exceed 0.8 grams/bhp-hr unless the rate of emissions is less than 1.7 lbs/hr.

c. Total Nonmethane Hydrocarbons (NMHC)

The emission rate of total nonmethane hydrocarbons discharged to the atmosphere from the 1000 HP engine shall not exceed 0.05 grams/bhp-hr unless the rate of emissions is less than 0.10 lbs/hr.

d. Sulfur Dioxide (SO₂)

(1) The sulfur content of all diesel fuel burned in the 1000 HP engine shall not exceed:

- (a) 500 ppm by weight on or before May 31, 2010.
 - (b) 15 ppm by weight on or after June 1, 2010.
- (2) The emission rate of sulfur dioxide discharged to the atmosphere from the 1000 HP engine shall not exceed:
- (a) 0.36 lbs/hr on or before May 31, 2010.
 - (b) 0.011 lbs/hr on or after June 1, 2010.

On or after June 1, 2010, the Office of Air Resources may relax conditions A.2.d.(1)(b) and A.2.d.(2)(b) if the owner/operator can demonstrate that a shortage of diesel fuel meeting the 15 ppm sulfur content requirement exists.

e. Particulate Matter (PM)

The emission rate of particulate matter discharged to the atmosphere from the 1000 HP engine shall not exceed 0.08 grams/bhp-hr unless the rate of emissions is less than 0.19 lbs/hr.

f. Opacity

Visible emissions from the 1000 HP engine shall not exceed 10% opacity except for a period or periods aggregating no more than three minutes in any one hour. This visible emission limitation shall not apply during startup of an engine. Engine startup shall be defined as the first five minutes of firing following the initiation of firing.

3. RecoverMat 1

a. Nitrogen oxides (as Nitrogen dioxide (NO₂))

The emission rate of nitrogen oxides discharged to the atmosphere from the 880 HP engine shall not exceed 7.0 grams/bhp-hr unless the rate of emissions is less than 13.49 lbs/hr.

b. Carbon Monoxide (CO)

The emission rate of carbon monoxide discharged to the atmosphere from the 880 HP engine shall not exceed 1.8 grams/bhp-hr unless the rate of emissions is less than 3.51 lbs/hr.

c. Total Nonmethane Hydrocarbons (NMHC)

The emission rate of total nonmethane hydrocarbons discharged to the atmosphere from the 880 HP engine shall not exceed 0.17 grams/bhp-hr unless the rate of emissions is less than 0.33 lbs/hr.

d. Sulfur Dioxide (SO₂)

(1) The sulfur content of all diesel fuel burned in the 880 HP engine shall not exceed:

(a) 500 ppm by weight on or before May 31, 2010.

(b) 15 ppm by weight on or after June 1, 2010.

(2) The emission rate of sulfur dioxide discharged to the atmosphere from the 880 HP engine shall not exceed:

(a) 0.31 lbs/hr on or before May 31, 2010.

(b) 0.009 lbs/hr on or after June 1, 2010.

On or after June 1, 2010, the Office of Air Resources may relax conditions A.3.d.(1)(b) and A.3.d.(2)(b) if the owner/operator can demonstrate that a shortage of diesel fuel meeting the 15 ppm sulfur content requirement exists.

e. Particulate Matter (PM)

The emission rate of particulate matter discharged to the atmosphere from the 880 HP engine shall not exceed 0.49 grams/bhp-hr unless the rate of emissions is less than 0.95 lbs/hr.

f. Opacity

Visible emissions from the 880 HP engine shall not exceed 10% opacity except for a period or periods aggregating no more than three minutes in any one hour. This visible emission limitation shall not apply during startup of an engine. Engine startup shall be defined as the first five minutes of firing following the initiation of firing.

4. Trommel Screener

a. Nitrogen oxides (as Nitrogen dioxide (NO₂))

The emission rate of nitrogen oxides discharged to the atmosphere from the 140 HP engine shall not exceed 10.7 grams/bhp-hr unless the rate of emissions is less than 3.3 lbs/hr.

b. Carbon Monoxide (CO)

The emission rate of carbon monoxide discharged to the atmosphere from the 140 HP engine shall not exceed 2.0 grams/bhp-hr unless the rate of emissions is less than 0.62 lbs/hr.

c. Total Nonmethane Hydrocarbons (NMHC)

The emission rate of total nonmethane hydrocarbons discharged to the atmosphere from the 140 HP engine shall not exceed 0.5 grams/bhp-hr unless the rate of emissions is less than 0.15 lbs/hr.

d. Sulfur Dioxide (SO₂)

(1) The sulfur content of all diesel fuel burned in the 140 HP engine shall not exceed:

(a) 500 ppm by weight on or before May 31, 2010.

(b) 15 ppm by weight on or after June 1, 2010.

(2) The emission rate of sulfur dioxide discharged to the atmosphere from the 140 HP engine shall not exceed:

(a) 0.05 lbs/hr on or before May 31, 2010.

(b) 0.002 lbs/hr on or after June 1, 2010.

On or after June 1, 2010, the Office of Air Resources may relax conditions A.4.d.(1)(b) and A.4.d.(2)(b) if the owner/operator can demonstrate that a shortage of diesel fuel meeting the 15 ppm sulfur content requirement exists.

e. Particulate Matter (PM)

The emission rate of particulate matter discharged to the atmosphere from the 140 HP engine shall not exceed 1.1 grams/bhp-hr unless the rate of emissions is less than 0.33 lbs/hr.

f. Opacity

Visible emissions from the 140 HP engine shall not exceed 10% opacity except for a period or periods aggregating no more than three minutes in any one hour. This visible emission limitation shall not apply during startup of an engine. Engine startup shall be defined as the first five minutes of firing following the initiation of firing.

B. Operating Requirements

1. The owner/operator shall limit the combined quantity of diesel fuel combusted in the engines that power Compost Grinders 1 and 2 and the Trommel Screener to 15,000 gallons or less for any consecutive 12-month period.
2. The owner/operator shall limit the combined quantity of diesel fuel combusted in the engine that powers RecoverMat 1 to 10,000 gallons or less for any consecutive 12-month period..

C. Continuous Monitoring

1. Each engine shall be equipped with a non-resettable elapsed time meter to indicate, in cumulative hours, the elapsed engine operating time.

D. Fuel Oil Testing

1. Compliance with the diesel fuel sulfur limits may be determined based on a certification from the fuel supplier. Fuel supplier certifications shall include the following information:
 - a. The name of the fuel supplier;
 - b. The sulfur content of the fuel from which the shipment came or the shipment itself;
 - c. The location of the fuel when the sample was drawn for analysis to determine the sulfur content of the fuel, specifically including whether the fuel was sampled as delivered to Rhode Island Resource Recovery Corporation or whether the sample was drawn from fuel in storage at the fuel supplier's facility or another location;
 - d. The method used to determine the sulfur content of the fuel.
2. As an alternative to fuel supplier certification, the owner/operator may elect to sample the fuel prior to combustion. Sampling and analysis shall be conducted for the fuel in the initial tank(s) of fuel to be fired in the engines and after each

new shipment of fuel is received. Samples shall be collected from the fuel tank immediately after the fuel tank is filled and before any fuel is combusted.

E. Record Keeping and Reporting

1. The owner/operator shall, on a monthly basis, no later than 10 days after the first of each month, determine and record the hours of operation and fuel use for each engine for the previous month. The owner/operator shall keep records of this determination and provide such records to the Office of Air Resources or its authorized representative upon request.
2. The owner/operator shall, on a monthly basis, no later than 10 days after the first of each month, determine the total fuel used by the engines that power Compost Grinders 1 and 2 and the Trommel Screener during the previous 12 months.
3. The owner/operator shall notify the Office of Air Resources, in writing, whenever the combined quantity of diesel fuel combusted in the engines that power Compost Grinders 1 and 2 and the Trommel Screener exceeds 15,000 gallons for any consecutive 12-month period.
4. The owner/operator shall, on a monthly basis, no later than 10 days after the first of each month, determine the total fuel used by the engine that powers RecoverMat 1 during the previous 12 months.
5. The owner/operator shall notify the Office of Air Resources, in writing, whenever the quantity of diesel fuel combusted in the engine that powers RecoverMat 1 exceeds 10,000 gallons for any consecutive 12-month period.
6. The owner/operator shall notify the Office of Air Resources, in writing, of the date of actual initial start-up of each engine no later than fifteen days after such date.
7. The owner/operator shall notify the Office of Air Resources of any anticipated noncompliance with the terms of this permit or any other applicable air pollution control rules and regulations.
8. The owner/operator shall maintain copies of all fuel supplier certifications or fuel analyses and these copies shall be made accessible for review by the Office of Air Resources or its authorized representative and EPA. These records shall include a certified statement, signed by the owner/operator of the facility, that the records represent all of the fuel combusted at the facility
9. The owner/operator shall notify the Office of Air Resources, in writing, of any planned physical or operational change to any equipment that would:
 - a. Change the representation of the facility in the application.

- b. Alter the applicability of any state or federal air pollution rules or regulations.
- c. Result in the violation of any terms or conditions of this permit.
- d. Qualify as a modification under APC Regulation No. 9.

Such notification shall include:

- Information describing the nature of the change.
- Information describing the effect of the change on the emission of any air contaminant.
- The scheduled completion date of the planned change.

Any such change shall be consistent with the appropriate regulation and have the prior approval of the Director.

10. The owner/operator shall notify the Office of Air Resources, in writing, of any noncompliance with the terms of this permit or any other air pollution control rule or regulation within 5 business days of becoming aware of such occurrence and supply the Director with the following information
 - a. The name and location of the facility;
 - b. The subject source(s) that caused the noncompliance with the permit term;
 - c. The time and date of first observation of the incident of noncompliance;
 - d. The cause and expected duration of the incident of noncompliance;
 - e. The estimated rate of emissions (expressed in lbs/hr or lbs/day) during the incident and the operating data and calculations used in estimating the emission rate;
 - f. The proposed corrective actions and schedule to correct the conditions causing the incidence of noncompliance.
11. All records required as a condition of this approval must be made available to the Office of Air Resources or its representative upon request. These records must be maintained for a minimum of five years after the date of each record.

F. Fugitive Dust

1. No visible fugitive emissions shall leave the property from the grinders, trommel screener, associated sources and service roads within the facility. Compliance with the standard of no visible fugitive emissions shall be determined by a standard of no visible emissions exceeding 30 seconds in duration in any six-minute period as determined using 40 CFR 60, Appendix A, Test Method 22.
2. Opacity of visible emissions from the grinders and trommel screener shall not exceed 15 percent (6-minute average) as determined using 40 CFR 60, Appendix A, Test Method 9.
3. Service roads within the facility shall be maintained and controlled in such a manner as to minimize the potential for the generation of fugitive dust emissions.
4. All open storage areas and/or piles of material which may produce fugitive dust shall be covered, watered down, or implement other precautions, as necessary, to prevent generation of dust.
5. Adequate precautions shall be taken to prevent fugitive dust emissions from the storage, handling or transporting of material capable of releasing dust.

G. Other Permit Conditions

1. To the extent consistent with the requirements of this approval and applicable Federal and State laws, the facility shall be designed, constructed and operated in accordance with the representation of the facility in the permit application dated May 2004, prepared by GZA GeoEnvironmental, Inc as amended 14 March 2005.
2. Employees of the Office of Air Resources and its authorized representatives shall be allowed to enter the facility at all times for the purpose of inspecting any air pollution source, investigating any condition it believes may be causing air pollution or examining any records required to be maintained by the Office of Air Resources.
3. At all times, including periods of startup, shutdown and malfunction, the owner/operator shall, to the extent practicable, maintain and operate the facility in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Office of Air Resources which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures and inspection of the source.
4. Approval No. 1712 issued by the Office of Air Resources on 26 September 2002 for the installation of Compost Grinder 1 at the 2550 Plainfield Pike facility is revoked effective from the startup of this device at the 65 Shun Pike location.

Approval No. 1713 issued by the Office of Air Resources on 26 September 2002 for the installation of Compost Grinder 2 at the 2550 Plainfield Pike facility is revoked effective from the startup of the new Compost Grinder 2 at the 65 Shun Pike location. Approval No. 1714 issued by the Office of Air Resources on 26 September 2002 for the installation of RecoverMat 1 at the 2550 Plainfield Pike facility is revoked effective from the startup of this device at the 65 Shun Pike location. Approval Nos. 1715 issued by the Office of Air Resources on 26 September 2002 for the installation of RecoverMat 2 at the 2550 Plainfield Pike facility is revoked effective from the date of issuance of this permit.

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