

25 March 2011

Mr. John Silvestri  
President  
Material Sampling Technologies, LLC  
800 Central Street  
North Smithfield, RI 02896

Dear Mr. Silvestri:

The Department of Environmental Management, Office of Air Resources has reviewed and approved your application for the installation of an incinerator at your facility at 800 Central Street, North Smithfield, RI.

Enclosed is a minor source permit issued pursuant to our review of your application (Approval No. 2125).

If there are any questions concerning this permit, please contact me at 222-2808, extension 7028.

Sincerely,

Aleida M. Whitney  
Air Quality Specialist  
Office of Air Resources

cc: N. Smithfield Building Official  
Mr. Bruce Clark – Sage Environmental  
Ms. Jennifer Cervenka – Partridge, Snow & Hahn

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

MINOR SOURCE PERMIT

*MATERIAL SAMPLING TECHNOLOGIES, LLC*

APPROVAL NO. 2125

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

*Material Sampling Technologies, LLC*

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For the following:

*Installation of a Penram Diversified Manufacturing Corporation, Model No. C-700, starved-air incinerator to process precious metal-bearing material.*

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Located at: *800 Central Street, North Smithfield, RI*

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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 *Material Sampling Technologies, LLC* 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.

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Douglas L. McVay, Acting Chief  
Office of Air Resources

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Date of issuance

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

Permit Conditions and Emission Limitations

**MATERIAL SAMPLING TECHNOLOGIES, LLC**

**APPROVAL NO. 2125**

A. Emission Limitations

1. Particulate matter
  - a. The concentration of particulate matter in the incinerator exhaust flue shall not exceed 0.08 grains per dry standard cubic foot (0.08 gr/dscf) corrected to 12% CO<sub>2</sub>.
2. Opacity
  - a. Visible emissions from the incinerator exhaust flue shall not exceed 10% opacity (six-minute average).

B. Operating Requirements

1. The amount of material processed in the incinerator shall not exceed 730,000 pounds (365 tons) in any 12-month period.
2. The incinerator shall not be loaded unless the secondary chamber temperature is at or above 1800°F.
3. The secondary chamber temperature shall be maintained at a minimum of 1800°F, and the secondary chamber volume shall be of sufficient capacity to provide a minimum residence time for combustion gases of one second at 1800°F.
4. The secondary chamber thermocouple shall be located as close to the secondary chamber exit as possible or at a location that represents a minimum of a one second residence time at 1800°F.
5. An operator shall always be in attendance whenever the incinerator is operating.
6. Operation of the incinerator shall be consistent with the operating procedures included with the permit application except where conditions of this approval may indicate otherwise.

7. An incinerator operating procedures manual shall be maintained on-site at all times. All personnel who operate the incinerator shall be familiar with the operating procedures.

C. Monitoring Requirements

1. The secondary chamber temperature of the incinerator shall be monitored and recorded continuously.

D. Testing Requirements

1. Stack Testing – Incinerator

- a. Within 180 days of the issuance of this minor source permit; performance testing shall be conducted to demonstrate compliance with the emission limitation for particulate matter and to measure emissions of antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium and zinc..
- b. A stack testing protocol shall be submitted to the Office of Air Resources at least 60 days prior to the performance of any stack tests. The owner/operator shall provide the Office of Air Resources at least 60 days prior notice of any stack test.
- c. All test procedures used for emissions testing shall be conducted in accordance with Appendix A of 40 CFR 60 or another method approved by the Office of Air Resources and U.S. Environmental Protection Agency (EPA) prior to the performance of any emissions tests.
- d. The owner/operator shall install any and all test ports or platforms necessary to conduct the required testing, provide safe access to any platforms and provide the necessary utilities for sampling and testing equipment.
- e. All testing shall be conducted under operating conditions deemed acceptable and representative for the purposes of assessing compliance with the applicable emissions limitations.
- f. A final report of the results of stack testing shall be submitted to the Office of Air Resources no later than 60 days following completion of testing.
- g. All stack testing must be observed by the Office of Air Resources or its authorized representative to be considered acceptable, unless the Office of Air Resources provides authorization to the owner/operator to conduct the testing without an observer present.

E. Recordkeeping and Reporting

1. The owner/operator shall maintain the following records concerning the incinerator and waste material:
  - a. The daily operating hours of the incinerator.
  - b. The number of batches processed in the incinerator each day including the date and time the incinerator is loaded for each batch.
  - c. The weight of each batch processed in the incinerator in pounds.
  - d. A description of the waste material processed in the incinerator for each batch.
  - e. The operating temperature of the secondary chamber of the incinerator.
2. The owner/operator shall, on a monthly basis, no later than 15 days after the first of the month determine the total weight of material processed in the incinerator for the previous twelve months.
3. The owner/operator shall notify the Office of Air Resources, in writing, within 30 days after the first of the month, whenever the total weight of material processed in the incinerator exceeds 730,000 pounds for the previous twelve months.
4. The owner/operator shall notify the Office of Air Resources, in writing, of the date of actual initial start-up of the incinerator, no later than fifteen days after such date.
5. 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.
6. The owner/operator shall notify the Office of Air Resources in writing of any planned physical or operational change to any equipment that would:
  - Change the representation of the facility in the application.
  - Alter the applicability of any state or federal air pollution rules or regulations.
  - Result in the violation of any terms or conditions of this permit.
  - Qualify as a modification under APC Regulation No. 9.

Such notification shall include:

- a. Information describing the nature of the change.
- b. Information describing the effect of the change on the emission of any air contaminant.
- c. 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.

7. The owner/operator shall notify the Office of Air Resources, in writing, of any noncompliance with the terms of this permit within 30 calendar 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.
8. 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. 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.
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 permittee 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. The emission and dispersion characteristics of all sources of listed toxic air contaminants at the facility shall be consistent with the parameters used in the air quality modeling to demonstrate that the emissions of each listed toxic air contaminant does not cause an impact, at or beyond the property line of the facility, which exceeds the Acceptable Ambient Level for that substance. The Office of Air Resources, in its sole discretion, may reopen this minor source permit if it determines that the emission and dispersion characteristics have changed significantly and that emission limitations must be revised and/or added to this permit to ensure compliance with Air Pollution Control Regulation No. 22.

G. Malfunctions

1. The owner/operator shall shut down the incinerator in the event of a malfunction that results in, or that could result in, emissions in excess of the permit limits. The incinerator shall remain shutdown until the malfunction has been identified and corrected.
2. The owner/operator may seek to establish that a malfunction that would result in noncompliance with any of the terms of this permit or any other applicable air pollution control rules and regulations was due to unavoidable increases in emissions attributable to the malfunction. To do so, the owner/operator must demonstrate to the Office of Air Resources that:
  - a. The malfunction was not attributable to improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error;
  - b. The malfunction was not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
  - c. Repairs were performed in an expeditious fashion. Off-shift labor and overtime should be utilized, to the extent practicable, to ensure that such repairs were completed as expeditiously as practicable.
  - d. All reasonable steps were taken to minimize emissions during the period of time that the repairs were performed.
  - e. Emissions during the period of time that the repairs were performed will not:

- (1) Cause an increase in the ground level ambient concentration at or beyond the property line in excess of that allowed by Air Pollution Control Regulation No. 22 and any Calculated Acceptable Ambient Levels; and
  - (2) Cause or contribute to air pollution in violation of any applicable state or national ambient air quality standard.
- f. The reasons that it would be impossible or impractical to cease the source operation during said period.
- g. The owner/operator's actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence.

This demonstration must be provided to the Office of Air Resources, in writing, within two working days of the time when the malfunction occurred and contain a description of the malfunction, any steps taken to minimize emissions and corrective actions taken.

The owner/operator shall have the burden of proof in seeking to establish that noncompliance was due to unavoidable increases in emissions attributable to the malfunction.