10 November 2004

Mr. Marco Schiappa
Director Public Works
City of Cranston
869 Park Avenue
Cranston, RI 02910

Dear Mr. Schiappa:

The Department of Environmental Management, Office of Air Resources has reviewed and approved your request for a minor source permit for your Veolia-Cranston Water Pollution Control Facility located at 140 Pettaconsett Avenue, Cranston, RI.

Enclosed is a minor source permit issued pursuant to our review of your request (Approval No. 1818).

The permit conditions and emission limitations in this permit also incorporate and include those in Approval Nos. 647, 648 and 649 issued for the installation of the two sewage sludge incinerators and the air pollution control system for the larger incinerator. Hereinafter the design, construction, and operation of all the equipment addressed in these approvals shall be subject to the permit conditions and emission limitations contained in this minor source permit.

I can be reached at 222-2808, extension 7011 if there are any questions.

Sincerely,

Douglas L. McVay
Associate Supervising Engineer
Office of Air Resources

cc: Cranston Building Official
Daniel Gorka, Veolia Water
Glenn T. Almquist, ESS

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

MINOR SOURCE PERMIT

CITY OF CRANSTON

APPROVAL NOS. 647, 648, 649 & 1818

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

CITY OF CRANSTON

For the following:

Modifications to the existing sewage sludge incinerators, MHF18 and MHF14 by the installation of flue gas recirculation. Emissions generated from MHF18 are to be treated by a new air pollution control system that consists of an EnviroCare Systems VenturiPak Wet Scrubbing System (Approval No. 1818). Emissions generated from MHF14 are to be treated by the existing D.R. Technology Inc., Venturi/Impingement Tray Scrubber, Model No. P8003 (Approval No. 647) that formerly controlled emissions from MHF18.

Located at: *Veolia-Cranston Water Pollution Control Facility*
140 Pettaconsett Avenue, Cranston

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 *the City of Cranston* 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 Resource

Date of issuance

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

Permit Conditions and Emission Limitations

CITY OF CRANSTON

Approval Nos. 647, 648, 649 & 1818

A. Emission Limitations

1. The following emission limitations are applicable to the 18'-9" Crouse Combustion Systems, Inc. Multiple Hearth Sewage Sludge Incinerator (MHF 18).

   a. Nitrogen Oxides (NO_x)

      The emission rate of nitrogen oxides discharged to the atmosphere shall not exceed 4.63 pounds per ton of dry sludge input or a maximum of 7.87 lbs/hr, whichever is more stringent.

   b. Carbon Monoxide (CO)

      The emission rate of carbon monoxide discharged to the atmosphere shall not exceed 26.64 pounds per ton of dry sludge input or a maximum of 45.3 lbs/hr, whichever is more stringent.

   c. Particulate Matter (PM)

      (1) The emission rate of particulate matter discharged to the atmosphere shall not exceed 0.85 pounds per ton of dry sludge input or a maximum of 1.45 lbs/hr, whichever is more stringent.

      (2) The concentration of particulate matter discharged to the atmosphere shall not exceed 0.015 grains per dry standard cubic foot.

   d. Particulate Matter less than 10 microns in diameter (PM_{10})

      The owner/operator shall conduct emissions testing for PM_{10} emissions (including condensible particulate matter) during the emissions testing required in Condition D.1. Based on the results of the testing, the owner/operator shall propose to the Office of Air Resources, no later than 60 days following completion of testing, PM_{10} emissions limitations for inclusion in this permit.

e. Sulfur Dioxide (SO_2)

The emission rate of sulfur dioxide discharged to the atmosphere shall not exceed 2.31 pounds per ton of dry sludge input or a maximum of 3.93 lbs/hr, whichever is more stringent.

f. Volatile Organic Compounds (VOCs)

(1) The concentration of total hydrocarbons in the exit gas from the incinerator shall not exceed 100 ppmv, on a dry basis, corrected to 7% O_2 (24-hour average).

(2) The emission rate of total volatile organic compounds discharged to the atmosphere shall not exceed 5.64 lbs/hr.

g. Opacity

Visible emissions discharged into the atmosphere shall not exceed 10% opacity (six-minute average) while sludge is being charged to the incinerator from the sludge metering device. Where the presence of uncombined water is the only reason for failure to meet this requirement, such failure shall not be a violation of this permit.

2. The following emission limitations are applicable to the 14'-3" Crouse Combustion Systems, Inc. Multiple Hearth Sewage Sludge Incinerator (MHF 14).

a. Nitrogen Oxides (NO_x)

The emission rate of nitrogen oxides discharged to the atmosphere shall not exceed 4.63 pounds per ton of dry sludge input or a maximum of 4.21 lbs/hr, whichever is more stringent.

b. Carbon Monoxide (CO)

The emission rate of carbon monoxide discharged to the atmosphere shall not exceed 11.45 pounds per ton of dry sludge input or a maximum of 10.4 lbs/hr, whichever is more stringent.

c. Particulate Matter (PM)

(1) The emission rate of particulate matter discharged to the atmosphere shall not exceed 0.85 pounds per ton of dry sludge input or a maximum of 0.77 lbs/hr, whichever is more stringent.

(2) The concentration of particulate matter discharged to the atmosphere shall not exceed 0.015 grains per dry standard cubic foot.

d. Particulate Matter less than 10 microns in diameter (PM_{10})

The owner/operator shall conduct emissions testing for PM_{10} emissions (including condensible particulate matter) during the emissions testing required in Condition D.1. Based on the results of the testing, the owner/operator shall propose to the Office of Air Resources, no later than 60 days following completion of testing, PM_{10} emissions limitations for inclusion in this permit.

e. Sulfur Dioxide (SO_2)

The emission rate of sulfur dioxide discharged to the atmosphere shall not exceed 2.14 pounds per ton of dry sludge input or a maximum of 1.95 lbs/hr, whichever is more stringent.

f. Volatile Organic Compounds (VOCs)

(1) The concentration of total hydrocarbons in the exit gas from the incinerator shall not exceed 100 ppmv, on a dry basis, corrected to 7% O_2 (24-hour average).

(2) The emission rate of total volatile organic compounds discharged to the atmosphere shall not exceed 2.88 lbs/hr.

g. Opacity

Visible emissions discharged into the atmosphere shall not exceed 10% opacity (six-minute average) while sludge is being charged to the incinerator from the sludge metering device. Where the presence of uncombined water is the only reason for failure to meet this requirement, such failure shall not be a violation of this permit.

3. The following emission limitations are applicable to the entire facility.

a. Listed Toxic Air Contaminants

The total quantity of any listed toxic air contaminant discharged to the atmosphere from MHF18 and MHF14 shall not exceed the limitations shown in Table 1. The limitations shown in pounds per year are calculated on a 12-month rolling basis. These limitations were established to ensure that emissions from this facility do not exceed any of the acceptable ambient levels (AALs) listed in Air Pollution Control Regulation No. 22.

b. Hazardous Air Pollutants (HAP)

The total quantity of HAP emissions discharged to the atmosphere from the entire facility shall not exceed 18,000 pounds of any one (1) HAP or 48,000 pounds of any combination of HAPs in any consecutive 12-month period.

B. Operating Requirements

1. All emissions generated from each incinerator shall be captured, contained and routed to an air pollution control system, consisting of a venturi/impingement tray scrubber, for treatment prior to discharge to the atmosphere.

2. Each incinerator shall be operated according to its design specifications whenever it is charging sludge or is emitting air contaminants.

3. The owner/operator shall limit the quantity of sludge input to MHF18 to 13,403 dry tons or less, for any consecutive 12-month period.

4. The owner/operator shall limit the quantity of sludge input to MHF14 to 4,364 dry tons or less, for any consecutive 12-month period.

5. The exhaust temperature in each incinerator shall be maintained at or above 1200° F (24-hr average), as measured in the duct going from Hearth 1 to the unfired external combustion chamber.

6. The flue gas recirculation system for each incinerator shall be in full operation whenever the incinerator is in operation and is being charged with sludge. Any malfunction of the flue gas recirculation system shall be treated as a malfunction of an air pollution control system under Section G of this permit.

C. Monitoring Requirements

1. The owner/operator shall install, calibrate, maintain and operate equipment to measure the mass of sludge charged to each incinerator. The flow measuring device shall be certified by the manufacturer to have an accuracy of ±5 percent over its operating range.

2. The owner/operator shall provide access to the sludge charged so that a well-mixed representative grab sample of the sludge can be obtained.

3. The owner/operator shall collect and analyze a grab sample of the sludge feed to each incinerator once per day. The dry sludge content and volatile solids content of the sample shall be analyzed using “209 F, Method for Solid and Semisolid Samples”.

4. The owner/operator shall install, calibrate, maintain and operate a monitoring device that continuously measures the pressure drop of the gas flow through each combination scrubber system associated with each incinerator. The device used to monitor scrubber pressure drop shall be certified by the manufacturer to be accurate within 250 pascals (±1 inch water gage) and shall be calibrated on an annual basis in accordance with the manufacturer's instructions.

5. The owner/operator shall install, calibrate, maintain and operate a monitoring device that continuously measures the scrubber water flow rate to each scrubber system associated with each incinerator. The device used to monitor scrubber water flow rate shall be certified by the manufacturer to be accurate within ±5% over its operating range and shall be calibrated on an annual basis in accordance with the manufacturer's instructions.

6. The owner/operator shall install, calibrate, maintain and operate a monitoring device that continuously measures the oxygen content of the exhaust gas in each incinerator. The oxygen monitor shall be located upstream of any rabble shaft cooling air inlet into the exhaust gas stream, fan, ambient air recirculation damper, or any other source of dilution air. The oxygen monitoring device shall be certified by the manufacturer to have a relative accuracy of ±5 percent over its operating range, and shall be calibrated according to method(s) prescribed by the manufacturer at least once each 24-hour operating period.

7. The owner/operator shall install, calibrate, maintain and operate temperature measuring devices at every hearth in each incinerator. A minimum of one thermocouple shall be installed in each hearth in the cooling and drying zones, and a minimum of two thermocouples shall be installed in each hearth in the combustion zone of each incinerator. Each temperature measuring device shall be certified by the manufacturer to have an accuracy of ±5 percent over its operating range.

8. The owner/operator shall install, calibrate, maintain and operate a device for measuring the fuel flow to each incinerator. The flow measuring device shall be certified by the manufacturer to have an accuracy of ±5 percent over its operating range.

9. On a daily basis, the owner/operator shall measure the amount of fuel used in each incinerator.

10. The owner/operator shall install, calibrate, maintain and operate a device for measuring the temperature in the incinerator exhaust in the duct going from Hearth 1 to the unfired external combustion chamber of each incinerator during all periods of operation. Each temperature measuring device shall be certified by the manufacturer to have an accuracy of ±5 percent over its operating range.

11. The owner/operator shall install, calibrate, maintain and operate an instrument that continuously measures and records the total hydrocarbon concentration in the incinerator exhaust stack during all periods of operation. The total hydrocarbon

instrument shall employ a flame ionization detector; shall have a heated sampling line maintained at a temperature of 150 degrees Celsius or higher at all times and shall be calibrated at least once every 24-hour operating period using propane.

12. The owner/operator shall submit to the Office of Air Resources, for review and approval, within 60 days of startup, a proposed monitoring plan for verifying compliance with the emission limitations in this permit. The proposal shall include a top-down evaluation of alternative approaches and discuss the technical and/or economic considerations for not including any approach in the proposed monitoring plan. The approaches to be evaluated in top-down order are:

    a. Direct measurement of the emitted pollutants by a continuous emission monitoring system.

    b. Direct measurement of the emitted pollutants by intermittent stack testing. The frequency of intermittent stack testing considered should include monthly, quarterly, annually and once during each operating permit cycle (every five years.)

    c. Indirect measurement of the emitted pollutants by periodic sludge sampling. Evaluation of this approach should include daily (or other representative period) sludge sampling and a demonstration that a relationship exists between the sludge concentration and the pollutant being emitted.

    d. Parametric monitoring of operating parameters.

    e. Other methods.

D. Testing Requirements

1. Within 180 days of commencing operation of each modified incinerator, emissions testing shall be conducted for each unit. Emissions testing shall be conducted for particulate matter, particulate matter less than 10 microns in diameter, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds and each listed toxic air contaminant in Table 1.

    a. An emission testing protocol shall be submitted to the Office of Air Resources for review and approval prior to the performance of any emissions tests. The owner/operator shall provide the Office of Air Resources at least 60 days prior notice of any emissions test.

    b. 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.

c. 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.

d. All testing shall be conducted under operating conditions deemed acceptable and representative for the purpose of assessing compliance with the applicable emission limitations.

e. The owner/operator shall notify the Office of Air Resources at least 60 days before the tests are scheduled in order to allow for testing to be observed by an Office of Air Resources representative.

f. A final report of the results of any compliance testing shall be submitted to the Office of Air Resources no later than 60 days following completion of testing.

g. All emissions testing must be observed by the Office of Air Resources or its authorized representatives to be considered acceptable.

E. Recordkeeping and Reporting Requirements

1. The owner/operator shall continuously record the following information during all periods of operation of each incinerator:

a. The mass of the sludge charged to each incinerator.

b. The combustion zone temperatures of each incinerator.

c. The fuel flow to each incinerator.

d. The pressure drop of the gas flow through the combined wet scrubber system (venturi and tray scrubber) serving each incinerator.

e. The scrubber water flow rate through the each wet scrubber system serving each incinerator.

f. The oxygen content of each incinerator's exhaust.

g. The incinerator exhaust temperature.

2. The owner/operator shall record daily the fuel used in each incinerator.

3. The owner/operator shall maintain records of the quantities of sludge received, the source of the sludge, and the date the sludge was received.

4. On a monthly basis, no later than fifteen (15) days after the first of each month, the owner/operator shall determine the quantity of NO_x emitted from each incinerator for the previous twelve (12) month period.

5. The owner/operator shall maintain a record of the total solids and volatile solids content of the sludge charged to each incinerator.

6. The owner/operator shall determine compliance with the sludge throughput limitation contained in Conditions B.3 and B.4 of this permit by using the total solids content and hourly sludge feed rates to calculate the dry tons of sludge charged to each incinerator during the previous 12 months. This calculation shall be performed each month, no later than 15 days after the first of each month.

7. The owner/operator shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of each incinerator, any malfunction of each wet scrubber system serving each incinerator, or any periods during which a continuous monitoring system or monitoring device is inoperative.

8. The owner/operator shall maintain a file of all measurements, including continuous monitoring system, monitoring devices and performance testing measurements; all CMS calibration checks; adjustments and maintenance performance on these systems or devices; and all other information required shall be recorded in a permanent form suitable for inspection.

9. The owner/operator shall notify the Office of Air Resources in writing of the anticipated date of the initial start-up the following equipment, not more than 60 days nor less than 30 days prior to such date.

    a. Each modified incinerator.

    b. The EnviroCare VenturiPak Wet Scrubbing System serving MHF18.

    c. The reinstalled D.R. Technology Venturi/Impingement Tray Scrubber serving MHF14 from MHF18.

10. The owner/operator shall notify the Office of Air Resources in writing of the actual initial start-up of the following equipment, no later than 15 days after such date.

    a. Each modified incinerator.

    b. The EnviroCare VenturiPak Wet Scrubbing System serving MHF18.

c. The reinstalled D.R. Technology Venturi/Impingement Tray Scrubber serving MHF14 from MHF18.

11. The owner/operator shall notify the Office of Air Resources, in writing, of the date of removal of the existing D.R. Technology Venturi/Impingement Tray Scrubber serving MHF14 (Approval No. 650) no later than 15 days after such date.

12. The owner/operator shall notify the Office of Air Resources within 15 days whenever:

    a. The dry tons of sludge charged to MHF 18 exceeds 13,403 dry tons during any consecutive 12-month period.

    b. The dry tons of sludge charged to MHF 14 exceeds 4,364 dry tons during any consecutive 12-month period.

13. The owner/operator shall, on a monthly basis, no later than 5 days after the first of the month, determine the total quantity of hazardous air pollutants (HAPs) discharged to the atmosphere from the entire facility. The owner/operator shall keep records of this determination and provide such records to the Office of Air Resources upon request.

14. The owner/operator shall notify the Office of Air Resources in writing, within 15 days, whenever the total quantity of HAPs discharged to the atmosphere from the entire facility exceeds 18,000 pounds of any one (1) HAP or 48,000 pounds of any combination of HAPs in any consecutive 12-month period.

15. The owner/operator must notify the Office of Air Resources no later than 24 hours after an exceedance of any emission limitation is discovered. Notification shall include:

    - Identification of the emission limitation exceeded
    - Suspected reason for the exceedance
    - Corrective action taken or to be taken
    - Anticipated length of the exceedance

16. The owner/operator shall submit to the Office of Air Resources and EPA, semi-annually, a report in writing, which contains the following:

    a. A record of average scrubber pressure drop measurements for each period of 15 minutes duration or more during which the pressure drop of each combined wet scrubber system (venturi and tray scrubber) was less than, by a percentage specified below, the average scrubber pressure drop measured

during the most recent performance test. The percent reduction in scrubber pressure drop for which a report is required shall be determined as follows:

(1) If the average PM emission rate was 0.38 kg/Mg (0.75 lb/ton) dry sludge input or less during the most recent performance test, a scrubber pressure drop reduction of 30% from the average scrubber pressure drop recorded during the most recent performance test shall be reported.

(2) If the average PM emission rate was greater than 0.38 kg/Mg (0.75 lb/ton) dry sludge input during the most recent performance test, a percent reduction in scrubber pressure drop greater than that calculated according to the following equation shall be reported:

$$P = -111E + 72.15$$

Where, P = percent reduction in scrubber pressure drop, and
E = average PM emissions (kg/Mg)

b. A record of average oxygen content in the exhaust gas of each incinerator for each period of 1-hour duration or more that the oxygen content of the incinerator exhaust exceeds the average oxygen content measured during the most recent performance test by 3 percent.

c. If the average PM emission rate exceeded 0.38 kg/Mg (0.75 lb/ton) dry sludge input during the first performance test conducted for this permit, then for each calendar day for which a report is required under Condition E.15.a or E.15.b, the report shall include the following information:

(1) Scrubber pressure drop averaged over each 1-hour operating period.

(2) Oxygen content in the exhaust gas of each incinerator averaged over each 1-hour operating period.

(3) Temperatures of every hearth averaged over each 1-hour operating period.

(4) Rate of sludge charged to each incinerator averaged over each 1-hour operating period.

(5) Fuel use by each incinerator averaged over each 8-hour operating period.

(6) Moisture and volatile solids content of the daily grab sample of sludge charged to each incinerator.

17. 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.

18. The owner/operator shall notify the Office of Air Resources of any noncompliance with the terms of this permit, in writing, within 5 days of the occurrence.

19. 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 APCR 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.

20. 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 permit 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 prepared by ESS Group, Inc., dated 26 November 2003 and any revisions.

2. Each incinerator is subject to the requirements of the Federal New Source Performance Standard 40 CFR 60 Subpart A, "General Provisions" and Subpart O, "Standards of Performance for Sewage Treatment Plants" and the National Emission

Standard for Hazardous Air Pollutants 40 CFR 61 Subpart A, "General Provisions", Subpart C, "National Emission Standard for Beryllium", and Subpart E, "National Emission Standard for Mercury." Compliance with all applicable provisions therein is required, unless otherwise stated in this permit.

3. 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.

4. 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.

5. Approval No. 650 issued by the Office of Air Resources on 10 May 1984 for the installation of the DR Technology Venturi/Impingement Tray Scrubber to service MHF14 is revoked upon receipt of notification of the removal of the system.

6. The Office of Air Resources may reopen and revise this permit if it determines that:

   a. a material mistake was made in establishing the operating restrictions; or,

   b. inaccurate emission factors were used in establishing the operating restrictions; or,

   c. emission factors have changed as a result of stack testing or emissions monitoring.

G. Malfunctions

1. In the case of a malfunction of any air pollution control system, all reasonable measures shall be taken to assure resumption of the designed control efficiency as soon as possible. In the event that the malfunction of the air pollution control system is expected or may reasonably be expected to continue for longer than 24 hours and if the owner or operator wishes to operate the source on which it is installed at any time beyond that period, the Director shall be petitioned for a variance under Section 23-23-15 of the General Laws of Rhode Island, as amended. Such petition shall include, but is not limited to, the following:

a. Identification of the specific air pollution control system and source on which it is installed;

b. The expected period of time that the air pollution control system will be malfunctioning or out of service;

c. The nature and quantity of air contaminants likely to be emitted during said period;

d. Measures that will be taken to minimize the length of said period;

e. The reasons that it would be impossible or impractical to cease the source operation during said period.

2. Malfunction means a sudden and unavoidable breakdown of process or control equipment. The owner/operator may seek to establish that a malfunction of any air pollution control system 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 air pollution control 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 possible 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 action 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.

Table 1. Emissions Limitations for Listed Toxic Air Contaminants

Pollutant	Limitation		
	pounds/hour	pounds/day	pounds/year
Acrylonitrile	4.68	--	93.83
Antimony & compounds, except trioxide[a]		0.28	
Antimony trioxide		0.28	187.7
Arsenic & compounds [a] (inorganic)	0.0047	--	1.877
Benzene	4.68	42	900
Beryllium & compounds [a]	--	0.022 [b]	3.75
Cadmium & compounds [a]	--	0.140	5.63
Chromium VI & compounds [a]-solid particulate	--	1.40	0.751
Cobalt & compounds [a]	--	--	93.83
Hydrogen Chloride	46.76	--	10,000
Lead & compounds[a], inorganic	--	2.1	--
Manganese & compounds [a]	--	0.070	350
Mercury & compounds [a]	0.047	0.421	84.45
Nickel & compounds [a]	0.140	--	37
Sulfuric Acid	2.34	--	9,000
Total 2,3,7,8 TCDD equivalents	--	--	2.81E-05
Vanadium & compounds [a]	0.0047	--	--

[a] For metal compounds, limitations apply to the metal portion of the compound.
[b] In the case of the daily limit for beryllium, the NESHAPS limit in 40 CFR 61 Subpart C of 10 grams (0.022 pound) per 24 hours is a lower limit than that back-calculated using the AAL and the modeling results. The federal limit is therefore used.