



**SOUTH FLORIDA ENVIRONMENTAL SERVICES**  
*Air Quality Specialists*

# Test Protocol (REV1)

PM & VE Compliance Testing -  
Solid Waste Authority's Biosolids  
Pelletization Facility (Facility ID No.  
0990234)

*Prepared for . . .*

Solid Waste Authority of Palm Beach County  
West Palm Beach, Florida

*Prepared by . . .*

**South Florida** Environmental Services, LLC  
Proposed Test Dates: June 27<sup>th</sup> and 28<sup>th</sup>, 2013  
Project No. 13-527

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- D - Facility Permit (0990234-022-AV), Tuning Test Request Letter & Tuning Venturi Permission Letter

## 1.0 INTRODUCTION

### 1.1 Overview

South Florida Environmental Services, LLC of West Palm Beach, FL has been retained by NEFCO to conduct a Particulate Matter (PM) and Visible Emission (VE) test program at the North County Resource Recovery Facility (NRCRRF) plant located in West Palm Beach, Florida. The facility is also known as the Biosolids Pelletization Facility or “BPF” and is owned by the Solid Waste Authority of Palm Beach County (SWA). As part of recent modifications on the two existing dryer systems cyclones and scrubbers, the Florida Department of Environmental Protection (FDEP) has mandated that each system (Dryer Train #1 and #2) need to be retested for PM / PM10<sup>1</sup> and VE within 180 days of completion of the upgrades. As such, a compliance test date of June 27<sup>th</sup>, 2013 (and 28<sup>th</sup> if needed) has been selected as a date to verify compliance with the facilities permit. VE will be also performed on the scrubbers to serve as the annual compliance test for 2013. A summary of the primary parties involved in this test program is presented in Table 1-1.

### 1.2 Program Scope

The objectives of the program are twofold:

The first objective is to determine the optimum operating conditions of the venturi scrubbers, by conducting a series of one-hour tests at various water flows and throat openings lower than the original design, as authorized by FDEP. The FDEP letter of authorization is appended to this protocol. Eight individual tests are to be conducted, four per dryer. Once the optimum operating condition has been established the compliance testing will begin.

The second objective is to determine compliance with PM/PM10 and visible emissions requirements, as set forth by the FDEP (Permits 0990234-022-AV) for each of the two dryer systems. As stated in the permit, PM and VE testing must be conducted in accordance with procedures set forth in Appendix A of 40 CFR 60. Testing will consist of three 60-minute test runs one each dryer / RTO unit while it is operating between 90 and 100% of the maximum permitted processing rate for each dryer (i.e. between 12.65 and 14.06 tons per hour) for PM and one 60-minute test run for VE's.

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<sup>1</sup> Because the scrubbers and RTOs remove substantially all PM above 10 microns, substantially all PM as measured by Method 5 is expected to be PM10.

### **1.3 Protocol Organization**

The remainder of this Protocol is organized into three additional Sections. Section 2 presents a sample summary of results and a sampling point description. A description of the flue gas monitoring procedures is provided in Section 3, while Section 4 addresses the quality assurance/quality control aspects of the program. All samples of data sheets, cylinder gas certification sheets, sampling train schematics & CEMS specification sheets and the facility permit is presented in Appendices A through D, respectively.

**Table 1-1 Test Program Informational Summary**

<b>Source Information</b>
Facility Name: North County Resource Recovery Facility Owned By: Solid Waste Authority of Palm Beach County Operated By: New England Fertilizer Company (NEFCO) Plant Address: 7501 North Jog Road West Palm Beach, FL 33412 Contact: Mr. Mike Thayer (NEFCO) Phone: (617) 773-3131 Email: <a href="mailto:sludgy@nefcobiosolids.com">sludgy@nefcobiosolids.com</a>
<b>Test Firm Information</b>
Test Firm Name: South Florida Environmental Services, LLC Address: 2257 Vista Parkway, Suite 25 West Palm Beach, FL 33412 Contact: Mr. Andrew R. Seaha Phone: (978) 499-9300 x14 Email: <a href="mailto:aseaha@eastmount.com">aseaha@eastmount.com</a>
<b>Regulatory Information</b>
Organization: Florida Department of Environmental Protection (Division of Air Resource Management) Address: 2600 Blair Stone Road, MS#5505 Tallahassee, FL 32399 Contact: Mr. Scott Trainor Phone: (561) 681-6629 Email: <a href="mailto:scott.trainor@dep.state.fl.us">scott.trainor@dep.state.fl.us</a>

## 2.0 SOURCE SUMMARY

### 2.1 Source Description

The SWA has selected NEFCO to operate the Biosolids Pelletization Facility located in West Palm Beach, FL. The facility consists of two identical, independent drying trains consisting of the following:

- A Baker Rullman direct-fired rotary dryer equipped with a Maxon low NO<sub>x</sub> burner and separator cyclone;
- A Sly three stage impingement tray scrubber/condenser;
- A Sly variable throat venturi scrubber; and
- A Cycletherm Regenerative Thermal Oxidizer (RTO).

Testing of emissions shall be conducted with the emission unit operating at permitted capacity. Permitted capacity is defined as 90-100% of the maximum operation rate by permit. The maximum process rate for each dryer train is 337.5 wet tons of sludge per day (wtpd) and can either combust natural gas or landfill gas, which is available from the landfill near the facility. If sufficient landfill gas is available to operate one dryer at 90 – 100% of the permitted rate, all tests will be conducted while the dryer uses landfill gas. Otherwise, natural gas will be used in the dryers and RTOs. Each dryer has a rated capacity of 40 MMBTU/hr heat input (either from landfill or natural gas) plus an additional 2 MMBTU/hr heat input from each RTO for a total rated capacity of 84 MMBTU/hr heat input for the dryers and RTOs.

The facility also operates two odor scrubbers that treat ventilation air as well as baghouse exhaust. These scrubbers will be tested for their annual Visible Emissions as part of this program.

All sampling (both PM and VE) will be conducted at the discharge end of the system at the stack location.

### 2.2 Program Summary – Preliminary Testing

South Florida Environmental Services (SFES) will conduct the preliminary (or “tuning”) testing for the determination of concentrations for particulate matter while the drying trains are operating on landfill gas unless landfill gas is limited. The dryers will be operating at permitted capacity during

the preliminary testing. Permitted capacity is defined as 90 to -100% of the maximum operation rate allowed by permit. Preliminary testing on each dryer train will consist of four test runs while each unit's impingement tray scrubber is operating at established CAM conditions and its venturi scrubber is operated at different operating conditions. The results of the tests will be used to determine the best operating conditions for the compliance testing. SFES will also utilize a transportable Continuous Emission Monitoring System (CEMS) to conduct all diluent monitoring (oxygen and carbon dioxide), while using a Clean Air Engineering (CAE) EPA Method 5 metering system to conduct particulate matter sampling. Also, for two runs on each dryer train as outlined in Table 2-1, partial sizing and condensable particulate matter testing will be conducted. The following table shows the target conditions for the diagnostic testing:

**Table 2-1 Diagnostic Test Conditions**

Source	Location	Condition	EPA Methods to be Used for Testing	No. of Runs	Duration
Dryer Train #1	RTO Outlet	Venturi Scrubber at 109 gpm and 6" delta p	3A, 5, 202	1	60-min
		Venturi Scrubber at 55 gpm and 6" delta p	3A, 5	1	60-min
		Venturi Scrubber at 10 gpm and maximum throat opening	3A, 5	1	60-min
		Venturi Scrubber at 0 gpm and maximum throat opening	3A, 5, 202	1	60-min
Dryer Train #2	RTO Outlet	Venturi Scrubber at 109 gpm and 6" delta p	3A, 5, 202	1	60-min
		Venturi Scrubber at 55 gpm and 6" delta p	3A, 5	1	60-min
		Venturi Scrubber at 10 gpm and maximum throat opening	3A, 5	1	60-min
		Venturi Scrubber at 0 gpm and maximum throat opening	3A, 5, 202	1	60-min

### 2.3 Program Summary – Compliance Testing

South Florida Environmental Services (SFES) will conduct the compliance testing for the determination of concentrations for particulate matter while the drying trains are operating on



landfill gas. Compliance testing on each dryer train will consist of three 60-minute test runs (with visible emissions being read) while each unit is operated at 90-100% of the maximum operation rate allowed by permit. The results of the tests will show the facilities emissions in units of standard with the facility permit. SFES will also utilize a transportable Continuous Emission Monitoring System (CEMS) to conduct all diluent monitoring (oxygen and carbon dioxide), while using a Clean Air Engineering (CAE) EPA Method 5 metering system to conduct particulate matter sampling. Table 2-2 summarizes the associated pollutants that will be tested and the EPA methodology that will be used and any associated limits.

**Table 2-2 Summary of Compliance Test Requirements**

Source	Location	Parameters / EPA Method	No. of Runs	Duration	FDEP Limits
Dryer Train #1	RTO Outlet	Oxygen – Method 3A	3	60-min	n/a
		Carbon Dioxide – Method 3A	3	60-min	n/a
		Particulate Matter – Method 5	3	60-min	2.42 lb/hr
		Opacity – Method 9	1	60-min	5%, except 20% for up to 3 minutes in 1-hr
	Scrubber Outlet	Opacity – Method 9	1	60-min	5% except 20% for up to 3 minutes in 1-hr
Dryer Train #2	RTO Outlet	Oxygen – Method 3A	3	60-min	n/a
		Carbon Dioxide – Method 3A	3	60-min	n/a
		Particulate Matter – Method 5	3	60-min	2.42 lb/hr
		Opacity – Method 9	1	60-min	5% except 20% for up to 3 minutes in 1-hr
	Scrubber Outlet	Opacity – Method 9	1	60-min	5% except 20% for up to 3 minutes in 1-hr

## 2.4 Process Operations During Testing

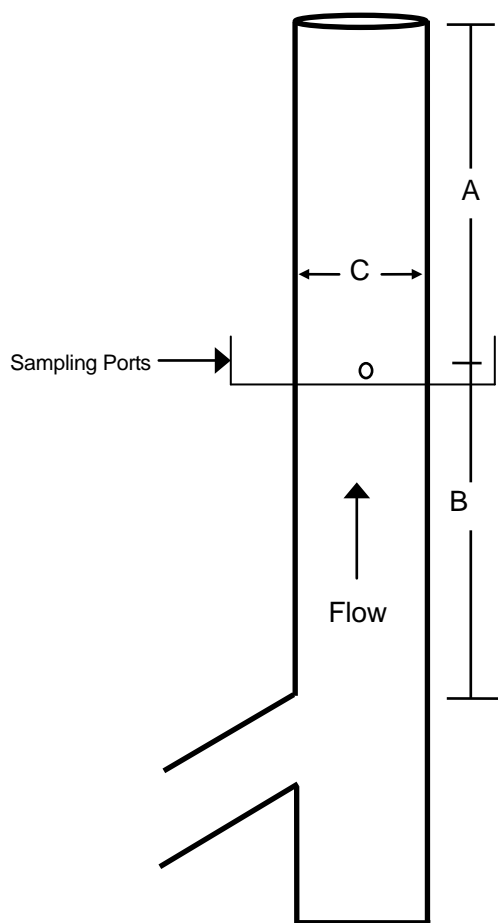
For each test run, NEFCO personnel will record all pertinent operating data, or as appropriate. These include gas usage (i.e. estimated firing rates), sludge feed rates, tray scrubber flow and

pressure drop, venturi scrubber flow and pressure drop, dryer temperatures and RTO temperature.

## **2.5 Sample Point Description – Particulate Matter**

All Particulate Matter test runs will utilize two sampling ports located 90 degrees to each other on a vertical section of stack with an inside diameter of 36". The ports are located approximately 26' downstream and approximately 88' upstream from the closest bend or expected pollution concentration change (stack exit) and each test port is 4" in diameter. A summary of the traverse points are presented in Figure 2-1.

**Figure 2-1 Sampling Schematic – RTO Outlet**



Stack Configuration		
Description	Distance	Equivalent Diameters
Upstream (A)	~88'	~29.3
Downstream (B)	~28'	~9.3
Diameter (C)	36"	NA
Number of Ports	2	NA
PM Traverse Points (per diameter) – not including port sleeve		
Traverse Points	% Diameter	Distance (inches)
1	4.4	1.6
2	14.6	5.3
3	29.6	10.7
4	70.4	25.3
5	85.4	30.7
6	95.6	34.4
CEM Traverse Points		
Traverse Points	% Diameter	Distance (inches)
1	16.7	6.0
2	50.0	18.0
3	83.3	30.0
A stratification test will be conducted at these traverse points prior to compliance testing to determine proper number of sampling points in accordance with Section 8.1.2 of EPA Method 7E.		

## 3.0 TEST PROCEDURES

### 3.1 Overview

Diagnostic testing for these sources will consist of concurrent reference method testing for particulate matter (either Method 5 or Method 202 with particle sizing) and instrumental monitoring for CEMS ( $O_2$  and  $CO_2$ ) while each dryer train is operated at the specified condition. The remainder of this section provides greater detail to each of the monitoring procedures that as a whole will comprise that portion of the test program.

Compliance testing for these sources will consist of concurrent reference method testing for particulate matter (using Method 5 only) and instrumental monitoring for CEMS ( $O_2$  and  $CO_2$ ) while each dryer train is operated at 90-100% of the maximum operation rate allowed by permit. The remainder of this section provides greater detail to each of the monitoring procedures that as a whole will comprise the test program.

#### 3.1.1 Particulate Matter Monitoring – Method 5

Particulate matter will be measured using EPA Methods 1 through 5. Method 5 measurements include the determination of the proper number of sampling points and their locations in the stack (RM1), stack velocity and volumetric flow rate (RM2), stack gas molecular weight (RM3) and stack gas moisture content (RM4). The train will be an EPA Method 5-type isokinetic sampling train. Sampling will be conducted isokinetically for a period of 60 minutes per run, collecting a minimum of 30 dry standard cubic feet.

The sampling train consists of a stainless steel nozzle, stainless steel union, heated glass-lined probe, a glass filter holder, heated quartz glass filter, Teflon filter support, and a series of impingers. Please refer to Section 3.1.4 for a description of the impinger configuration. All glassware will be thoroughly cleaned and sealed as per EPA Methods 5 prior to mobilization.

All filters and beakers will be weighed before and after sampling in strict accordance with the Method and the EPA Quality Assurance Handbook. They will be desiccated for at least 24 hours, and then weighed at six-hour intervals until two consecutive weighings demonstrate a constant weight,  $\pm 0.5$  milligrams.

Prior to sampling, the K-factor will be established, the train will be assembled and leak checked. After the probe and filter box reach the desired operating temperature, the probe will be placed in the stack, and isokinetic sampling will take place.

At the completion of isokinetic sampling, the train will be leaked checked, disassembled, and sealed. All train recovery procedures will be conducted in accordance with EPA Method 5. The filter will be carefully removed from the filter holder, placed in a labeled petri dish and stored in a portable desiccator. The nozzle, probe and filter holder front half will be thoroughly brushed and rinsed with acetone into a container labeled for identification. Volumes will be noted and liquid levels marked.

A set of reagent blanks will also be taken for analysis along with the samples. The impinger condensate will be measured in a graduated cylinder for determination of moisture in the flue gas.

Particulate samples will be analyzed gravimetrically at South Florida Environmental's laboratory in accordance with the method. The acetone rinses will be evaporated to dryness in tared beakers. All filters and beakers will be desiccated before and after sampling for 24 hours, and weighed at 6-hour intervals until two consecutive weights are within  $\pm 0.5$  mg.

### **3.1.2 Particulate Matter Monitoring – Methods 5/202 with Particle Sizing and CPM**

PM<sub>2.5/10</sub> and condensable particulate matter (CPM) will be measured using EPA Method 5/202. This will involve using a combined train consisting of an nozzle, inertial impactor equipped with tared filter substrates and a tared filter, glass-lined heated probe, a filter bypass contained in a hot box, and a Method 202 type impinger condenser.

Particle size testing for PM<sub>2.5/10</sub> will utilize an inertial impactor manufactured by Andersen Samplers, Inc. This is an 8-stage impactor equipped with eight tared substrate filters and a tared final collection filter. The flow rate in the inertial impactor will be set to allow determination of both PM<sub>10</sub> and PM<sub>2.5</sub> cut sizes while maintaining an approximate isokinetic sampling rate. The final stage filter is supported in a stainless steel in-stack filter holder located in the stack. CPM will be collected in the impinger train and the probe (after the in-stack filter).

Before sampling, the appropriate nozzle size and sample rate will be calculated in order to achieve a 2.5 and 10 micron cut size. After the train is assembled and leak checked, the impactor will be placed in the stack for approximately ten minutes to allow the cyclone to heat up to the stack temperature.

Sampling will be conducted at a constant sampling rate under approximate isokinetic conditions for one hour. The required flow rate through the cyclone will be very specific in order to achieve the proper cut size.

During sampling, specific CPM criteria must also be maintained. Sample gas exiting the tared pm filter will travel through the probe to the external filter bypass. The the gas exits the filter bypass, it will be routed through a water-jacketed glass coil condenser which is designed to reduce the sample temperature to 65° - 85°F. Upon exiting the condenser coil, the sample passes through an empty knockout (short stem) impinger, an empty modified Greenburg Smith impinger, and then a dry, condensable PM filter (consisting of a glass filter holder, Teflon filter support, and an untared Teflon CPM filter). A thermocouple is located at the outlet of the dry filter holder to verify that the dry gas sample temperature is between 65°F and 85°F. The remainder of the sampling train consists of a third impinger initially loaded with 100ml of DiH<sub>2</sub>O and a fourth impinger initially loaded with a known amount of silica gel (200-300g).

After sampling has been completed, the 8-stages of the impactor will be recovered to their respective petri dishes with the filter tare weight and identification number. Extra care will be taken to insure that any substrate filter fibers that remaining on the stages ring are recovered to the appropriate petri dish. The nozzle and portion of the impactor body prior to the first stage will be rinsed with acetone into a labeled jar.

Also after sampling is completed, the CPM portion of the sampling train (dry impingers 1 and 2) will first be measured for net condensate gain. The contents of the third and fourth impingers will also be measured for moisture net gain, but will then be discarded as they are not considered part of the CPM sample.

The contents of the first two impingers (dry impingers) are then poured back into a single dry, modified G/S impinger before being purged with nitrogen (long stem impinger was placed first in the purge) for 60-minutes at a rate of at least 14 liters per minute. If there is not adequate moisture in the impinger to promote bubbling, then 100 ml of DI water may be added to the impinger for the purge. A filter will be placed between the nitrogen tank and the coil condenser inlet to remove any contaminant particulate. Purging of the coil condenser, CPM condensate, and dry filter will then occur for 60 minutes.

Following the purge, the contents of the first two (dry) impingers will be poured into a sample recovery bottle (CPM DI H<sub>2</sub>O fraction). Subsequently, each of the components in the dry impinger section (probe, filter bypass, offset 90°, condenser coil, two dry impingers, and the front half of the condensable PM filter housing) will be rinsed twice with DI water into the same DI H<sub>2</sub>O sample jar. Lastly, each of these components will be rinsed first with acetone (once) and then hexane (twice) into a separate sample recovery bottle (CPM acetone/hexane fraction). The dry CPM Teflon filter will be placed in a separate sample jar. All three fractions will be analyzed for condensable particulate matter (organic and inorganic).

The PM<sub>2.5/10</sub> samples will be analyzed gravimetrically by South Florida Environmental in accordance with the methods. Condensable particulate matter samples will be shipped to Maxxam Analytics where they will be analyzed in strict accordance with EPA Method 202.

### **3.1.3 Visible Emission Monitoring**

EPA Reference Method 9 will be adhered to for the determination of opacity emissions during this test program. During the compliance test, opacity emission readings will be taken at fifteen-second intervals for a minimum of one-hour. Ten 6-minute averages will be calculated from the 15-second readings and the highest 6-minute average reported for compliance purposes. A certified observer will record all opacity emissions.

### **3.1.4 Diluent Monitoring**

In general, the sample will be extracted, analyzed, and recorded in accordance with the applicable EPA sampling methods and performance specifications while following procedures delineated in the applicable instrumental analyzer procedures. All calibrations will be conducted utilizing EPA Protocol G1 gases. The results of calibrations will be used to determine the acceptability of the test data. Each analyzer that will be used during this test program is detailed below.

#### **3.1.4.1 Oxygen**

During this test program, oxygen will be monitored in accordance with both Performance Specification 3 (PS3) and EPA Method 3A, 40 CFR 60, Appendix A. SFES will comply with instrumental analyzer procedure 3A utilizing a Teledyne Model 326A oxygen analyzer operated on a 0-25% range.

#### **3.1.4.2 Carbon Dioxide**

During this test program, carbon dioxide will be monitored in accordance with 40 CFR 60, Appendix A, Method 3A. SFES will comply with instrumental analyzer procedure 3A utilizing a Fuji Model 3400 non-dispersive infrared analyzer (NDIR) operated on a 0-20% range.

## **3.2 Particulate Matter Sampling System Description**

Clean Air Engineering (CAE) manufactures the specific train that will be used during this test. The design specifications of this train meet all the requirements of EPA's Reference Method 5 as found in the Federal Regulations under Section 40 CFR 60 Appendix A, as amended. The following is a

description of the individual pieces of equipment that make up the train.

**Nozzle** - The nozzle is constructed of stainless steel of the buttonhook design. A range of sizes suitable for isokinetic sampling will be available. All nozzles will be calibrated before testing.

**Probe** - A 5-foot heated stainless steel probe with heated quartz or borosilicate glass liner will be used at the stack.

**Heating System** - The filter temperature will be regulated by maintaining the hot box temperature at  $248^{\circ} + 25^{\circ}\text{F}$ . This temperature will be constantly monitored by use of a thermocouple (located in the hot box) and temperature readout.

**Pitot Tube** - A Type S pitot tube attached to the probe will be used to monitor the stack gas velocity. Since the pitot tube meets all of the dimensional criteria set forth in Method 2 of 40CFR60, a coefficient of 0.84 will be used.

**Filter Holder** - A borosilicate glass type filter holder with a Teflon support will be used for all isokinetic testing.

**Condenser** - Four impingers, connected in series with leak-free ground glass fittings, will be used as the condenser. The first, third and fourth impingers will be of the Greenburg-Smith design modified by replacing the tip with a 1/2" diameter glass tube extending to approximately 1/2" from the bottom of the flask. The second impinger will be a standard Greenburg-Smith.

**Metering System** - A vacuum gauge, inclined manometer, leak-free pump, calibrated thermocouples, and a calibrated dry gas meter will be the basic components used to meter the dry sample gas through the system. Sample meter box and thermocouple calibration sheets may be found in Appendix C of this report.

**Gas Molecular Weight Determination** - CEMS will be used to determine  $\text{O}_2$  and  $\text{CO}_2$  content. They will be used to calculate the molecular weight of the flue gas and for correcting results to a common diluent.

### 3.2.1 Isokinetic Sampling Procedures

All sampling procedures will be conducted in strict accordance with the Methods prescribed in the Code of Federal Regulations as found in 40CFR60 as amended, where available. The following is the sequence of events that will occur prior to and during the actual test.



**Traverse Points** - The traverse points will be calculated in accordance with Method 1 and the probe will be marked accordingly.

**Static Pressure** - The static pressure of the ducts will be checked and recorded.

**Preliminary Traverse** - A preliminary traverse will be conducted. Readings included the pressure drops and gas temperatures.

**Nomograph** - Once the above information had been obtained, the nomograph for the actual test will be set up to correlate the isokinetic relationships.

**Barometric Pressure** - Barometric pressure will be obtained and recorded from a local weather station via the internet.

**Sampling Train Set-Up:**

- (a) The filter will be placed in the filter holder and visually checked. Filter number and tare weight will be recorded on the field data sheets.
- (b) The impingers will be loaded with de-ionized water. Volumes will be recorded on the field data sheets.
- (c) Approximately 200 grams of silica gel will be placed in the final impinger. Exact weights will be logged on the field data sheets.
- (d) Crushed ice will be placed around the impingers.
- (e) Once the entire train is assembled, the probe and hot box heaters will be turned on.

**Pre-Test Leak Check** - Once the heater box is at the desired temperature for testing, the system will be leak checked at fifteen inches of vacuum (15"Hg). A leak rate of less than 0.02 CFM will be achieved prior to the start of sampling.

**Final Check** – When sampling is ready to commence, plant operations will be checked to confirm that the facility is operating at the desired capacity.

**Sampling** - Isokinetic sampling, per the Reference Method then will take place.

**Post-Test Leak Check** - Upon completion of each test run, the system will be leak checked at the

highest vacuum recorded during that run. All leak checks less than 0.02 CFM will be considered acceptable.

**Sample Recovery** - All samples will be recovered according to the respective Reference Method procedures. Because of the extreme importance of proper sample recovery techniques, details of the sample recovery procedures may be found in Sections 4 of this protocol.

**Isokinetics** - Once all sample recovery is completed (including moisture determination), calculations will be conducted to determine the percent isokinetics of the test run.

### 3.3 CEMS Sampling System Description

What follows is a description of the individual components of South Florida's CEM system that will be used to quantify each of the diluents/pollutants that comprised this test program.

#### 3.3.1 Sample Delivery and Conditioning System

- **Sample Probe** – A stainless steel probe will be used to reach the centroid area of the stack.
- **Filter** - A spun glass fiber filter contained in a heated sheath. The filter is located between the sample probe and sample line; it is designed to remove particulate from the gas stream.
- **Sample Line** - 3/8" Teflon tubing in a heated sample line prior to the condenser designed to transport the sample gas from the probe to the sample conditioning system (in the CEMS trailer).
- **Condensers (2)** – Two condensers are used. Both condensers are 4-stage chillers. One chiller (ice cooled) is attached to the probe via a heated jumper for bulk moisture removal while the second chiller (thermo-electric) is located just prior to the main sample pump for removal of any remaining moisture from the gas stream.
- **Sample Pump** - A diaphragm type vacuum pump is used to draw gas from the sample probe through the conditioning system before distributing the gas to the individual analyzers. The pump head is stainless steel while the valve disks are Viton and the diaphragm is Teflon coated.
- **Sample Distribution System** - A series of flow meters, valves and backpressure regulators allows the operator to maintain constant flow and pressure conditions during sampling and calibration.

#### 3.3.2 Calibration System

- **Calibration Gases** – EPA Protocol Gases certified in accordance with EPA Protocol G1 procedures.
- **Calibration Solenoid System** - A series of solenoids designed to deliver a specified gas either directly to an analyzer or through the entire sampling system by activating the appropriate solenoid.
- **Calibration Line** – Teflon line (1/4”) run in parallel to the sample line.
- **Calibration Tee** - Stainless steel tee (3/8”) located between the probe and the filter that allows the operator to inject calibration gas through the entire sampling system. Excess calibration gas exits the probe eliminating any potential over pressurization.

### 3.3.3 Data Acquisition System

- **Computer** – A Dell Vostro 1710, 2.50 GHz.
- **Software** – Iotech data acquisition system (Personnel Daq 55/56). This system is programmed to collect data once per 2 seconds, while reporting 1-minute averages. This software operates in a Windows environment.

## 4.0 QUALITY ASSURANCE/QUALITY CONTROL

### 4.1 Overview

Strict QA/QC protocols will be followed during all phases of this project. These protocols include:

- QA objectives for measurement data;
- Data reduction;
- Internal QC;
- Calibration of equipment;
- Corrective action, if necessary; and
- Use of standardized field data sheets.

The following sections summarize specific aspects of the test program.

### 4.2 Particulate Matter QA

South Florida's meter boxes, pitot tubes, thermocouples and barometers are maintained in accordance with specifications set forth in EPA "Quality Assurance Handbook for Air Pollution Measurement Systems – Volume III Stationary Source Specific Methods" and with manufacturer's suggested procedures. A summary is presented below:

- **Dry Gas Meter and Orifice Meter/EPA Method 5** – All dry gas meters are calibrated against a GCA/Precision wet test meter that is calibrated against a spirometer. The orifice meters in the meter control box are calibrated against the wet test meter and checked against the dry gas meter to which it is attached.
- **Balance** – All analytical balances are calibrated against Class M weights. A daily onsite check is also conducted using a Class S weight.
- **Thermocouples** – All type K thermocouples are calibrated against ASTM mercury in glass thermometers at three points. The first point is in an ice bath and the second in ambient air and the third in boiling water.
- **Pitot Tubes** – All standard and Type "S" stainless steel pitot tubes are designed to meet the dimensional criteria set forth in Method 2, therefore a coefficient of 0.99 (standard) or 0.84 (Type "S") will be used.

**Table 4-1 Particulate Sampling Procedural Summary**

Task	Procedure
Filter/beaker preparation	<ol style="list-style-type: none"> <li>1. Identify filters and beakers. Wash beakers in warm, soapy water, rinse with DI water and allow to air dry.</li> <li>2. Desiccate filters and beaker for 24 hours.</li> <li>3. Calibrate balance to within 0.5 mg of standard daily using 1 g. and 100 g. NIST traceable weights.</li> <li>4. Weigh filter and beakers to nearest 0.1 mg every six hours until two consecutive weight agree within <math>\pm 0.5</math> mg</li> </ol>
Glassware/Teflon Preparation	<ol style="list-style-type: none"> <li>1. Wash all glassware and Teflon components in warm, soapy water. Rinse clean with tap water. Rinse thoroughly with DI water.</li> <li>2. Allow to air dry and seal with parafilm.</li> <li>3. Use only high purity quartz filters and glass or Teflon components.</li> </ol>
Sampling Train Set up	<ol style="list-style-type: none"> <li>1. Load/assemble sampling train components in field lab. Re-seal components and send up to stack.</li> <li>2. Finish assembling train on stack.</li> </ol>
Sampling Train Operation	<ol style="list-style-type: none"> <li>1. Operate sampling train between 0.50 and 1.0 cfm.</li> <li>2. After leak check, seal train components with parafilm.</li> </ol>
Sampling Train Recovery	<ol style="list-style-type: none"> <li>1. Rinse components from nozzle through front half of filter holder with reagent-grade acetone into container 1.</li> <li>2. Remove filter and place in original petri dish.</li> <li>3. Obtain reagent and filter blanks.</li> </ol>
Sample Identification and Shipping	<ol style="list-style-type: none"> <li>1. Identify all samples by stack, method, run no. fraction and contents.</li> <li>2. Generate chain of custody form identifying all samples.</li> <li>3. Ship samples to analytical laboratory.</li> </ol>
Particulate Analysis	<ol style="list-style-type: none"> <li>1. Desiccate filters for 24 hours.</li> <li>2. Slowly evaporate acetone rinses in tared beakers. Desiccate beaker for 24 hours.</li> <li>3. Calibrate balance to within 0.5 mg of standard daily using 1 g. and 100 g. NIST traceable weights.</li> <li>4. Weigh filter and beakers to nearest 0.1 mg every six hours until two consecutive weight agree within <math>\pm 0.5</math> mg.</li> </ol>
PM2.5/10	<ol style="list-style-type: none"> <li>1. Evaporate acetone rinse in container #2 to dryness in tared beaker.</li> <li>2. Place filter and beaker in desiccator and desiccate for 24 hour hours.</li> <li>3. Weight at six hour intervals until two consecutive weights agree by +0.5 mg.</li> </ol>
CPM Sample Analysis	<ol style="list-style-type: none"> <li>1. Receive samples, verify chain of custody/contents.</li> <li>2. Combine container #3 and #4 into separatory funnel and shake. Allow fractions to separate. Drain off organic fraction into a clean container. Rinse funnel with 75 ml of methylene chloride, shake, separate and drain. Repeat.</li> <li>3. Evaporate organic fraction and inorganic fraction separately in tared beakers.</li> <li>4. Evaporate front half acetone rinse in tared beaker.</li> <li>5. Desiccate beakers for 24 hours. Weight at six hour intervals until two consecutive weights agree by +0.5 mg.</li> </ol>

### 4.3 CEMS QA

Specific procedures will be followed to ensure the validity of the CEMS data collected for this program. The following subsections outline the specific procedures and performance criteria that were utilized to maintain quality assurance throughout this program.

#### 4.3.1 Calibration Gases

All calibration gases utilized for the emission testing will be prepared according to EPA Protocol G1 quality standards. Gas specification sheets for all calibration gases utilized during this test program are presented in Appendix B.

#### 4.3.2 Instrumental Monitoring

CEMS data quality will be assured throughout the test program by following procedures delineated in Performance Spec 3 for O<sub>2</sub> and CO<sub>2</sub>.

#### 4.3.3 Sampling Setup

The following procedures will be conducted during the initial phase of the program:

- **Leak Check** – Prior to the initiation of testing the reference method CEMS system will be leak checked from the end of the sample probe. If a leak is detected, it will be traced and fixed. The procedure will then be repeated until successful.
- **System Response Time** – Prior to the initiation of sampling a Reference Method (RM) CEMS response time will be determined. During the test program, the reference method CEMS will be allowed to sample a minimum of 2.5 times the RM CEMS response time prior to the initiation of any sampling runs.

#### 4.3.4 Calibration Criteria

The following subsections present the CEMS criteria that will be adhered to throughout the conduct of the test program.

- **Analyzer Calibration Error (ACE)** – At the beginning of each test day an analyzer calibration error (direct calibration) will be conducted for each analyzer by introducing zero and an upscale calibration gas upstream from the respective analyzers and calibrating the respective analyzers to the corresponding calibration gas value. A mid-range gas is then

injected to the respective analyzers in order to demonstrate linearity. The maximum allowable calibration error is 2% of instrument span. If this limit were not achieved, corrective action would be taken and the procedure would be repeated until successful. Analyzer calibration error is calculated as follows:

$$ACE = \frac{(C_{Dir} - C_v)}{CS} \times 100$$

Where:

$C_{Dir}$  = Measured concentration of a calibration gas (low, mid, or high) when introduced in direct calibration mode, ppmv.

$C_v$  = Manufacturer certified concentration of a calibration gas (low, mid, or high), ppmv.

CS = Calibration span, ppmv.

- **Sampling System Bias (SB)** – Following the performance of the analyzer calibration error a system bias check will be conducted by introducing sampling gas through the entire sampling system (system calibration) and comparing the response of the analyzer calibration error with that of the system calibration. The maximum allowable calibration error is 5% of instrument span. If this limit were not achieved, the test run would be voided and corrective action would be taken. If analyzer adjustments were made, the analyzer calibration error and system bias checks would be repeated until the calibration met the EPA Method 7E criteria. System bias is calculated as follows:

$$SB = \frac{(C_s - C_{Dir})}{CS} \times 100$$

Where:

$C_s$  = Measured concentration of a calibration gas (low, mid, or high) when introduced in system calibration mode, ppmv.

- **Calibration Drift (D)** – Prior to and following each test run a system calibration will be conducted in order to determine calibration drift during each test period. The maximum allowable calibration drift is 3% of instrument span. If the calibration drift were exceeded, corrective action would be taken. If any analyzer adjustments were made, a new analyzer calibration error and system bias check would be conducted. Calibration drift is calculated as follows:

$$D = \left| SB_{final} - SB_{initial} \right| \times 100$$

#### 4.3.5 Calibration Drift and System Bias Correction

Each instrumental analyzer method requires the correction of CEMS data for the system bias and calibration drift observed over each test period. All run averages will be corrected for system bias and calibration drift as follows:

$$C_{Gas} = (C_{Avg} - C_o) \left[ \frac{C_{MA}}{C_M - C_o} \right]$$

Where:

- $C_{Gas}$  = Average effluent gas concentration adjusted for bias, ppmv.
- $C_{Avg}$  = Average unadjusted gas concentration indicated by data recorder for test run.
- $C_o$  = Average of initial and final system calibration bias (or 2-point system calibration error) check responses from the low-level (or zero) calibration gas, ppmv.
- $C_M$  = Average of initial and final system calibration bias (or 2-point system calibration error) check responses for the upscale calibration gas, ppmv.
- $C_{MA}$  = Actual concentration of the upscale calibration gas, ppmv.



## **Appendix A**

### **Example Field Datasheets**

# Eastmount Environmental Services, LLC

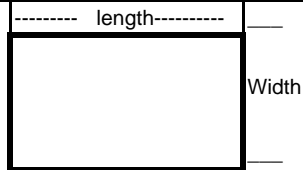
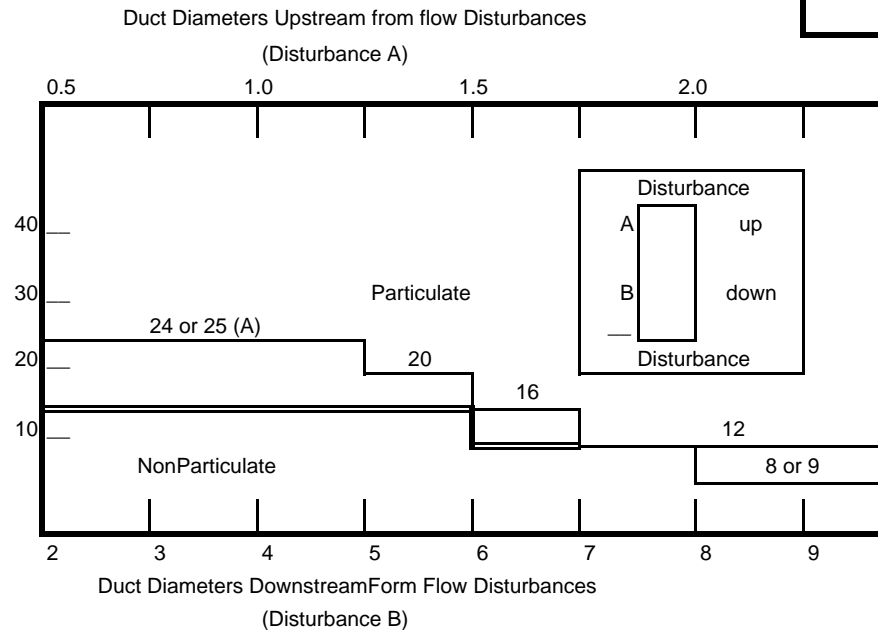
## EPA Method 1

### Sample and Velocity Traverses for Stationary Sources

Client: \_\_\_\_\_  
 Facility: \_\_\_\_\_  
 City, State: \_\_\_\_\_  
 Test Date: \_\_\_\_\_  
 Test Location: \_\_\_\_\_  
 Diameter of Stack: \_\_\_\_\_

Diameters Upstream of Disturbance (A): \_\_\_\_\_  
 Diameters Downstream of Disturbance (B): \_\_\_\_\_  
 Total Number of Traverse Points Required: \_\_\_\_\_  
 Number of Ports: \_\_\_\_\_  
 Traverse Points Per Point: \_\_\_\_\_  
 Traverse (Horizontal or Vertical): \_\_\_\_\_

#### MINIMUM NUMBER OF TRAVERSE POINTS FOR PARTICULATE AND NONPARTICULATE TRAVERSES



$$Deq = \frac{2LW}{L + W} = \underline{\hspace{2cm}}$$

Cross-Sectional Layout For Rectangular Stacks	
Total Points	Matrix
9	3 x 3
12	4 x 3
16	4 x 4
20	5 x 4
25	5 x 5

#### LOCATION OF TRAVERSE POINTS IN CIRCULAR STACKS

Point Number On A Diameter	Number of Traverse Points on a Diameter (Percent of stack diameter from inside wall to a traverse point)				
	4	6	8	10	12
1	6.7	4.4	3.2	2.6	2.1
2	25.0	14.6	10.5	8.2	6.7
3	75.0	29.6	19.4	14.6	11.8
4	93.3	70.4	32.3	22.6	17.7
5		85.4	67.7	34.2	25.0
6		95.6	80.6	65.8	35.6
7			89.5	77.4	64.4
8			96.8	85.4	75.0
9				91.8	82.3
10				97.4	88.2
11					93.3
12					97.9

#### TRAVERSE POINT LOCATIONS

Number	Distance from Wall (inches)	Port Depth (inches)	Total Distance (inches)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			





**EASTMOUNT ENVIRONMENTAL SERVICES**  
*Air Quality Specialists*

**NOZZLE CALIBRATION SHEET**

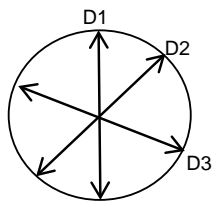
Project # : \_\_\_\_\_ Test Date : \_\_\_\_\_

Tech : \_\_\_\_\_

	Nozzle #	Nozzle #	Nozzle #
Point #	_____	_____	_____
D1	_____	_____	_____
D2	_____	_____	_____
D3	_____	_____	_____
Average (D <sub>N</sub> )	_____	_____	_____
	Metal Pyrex Quartz	Metal Pyrex Quartz	Metal Pyrex Quartz

---

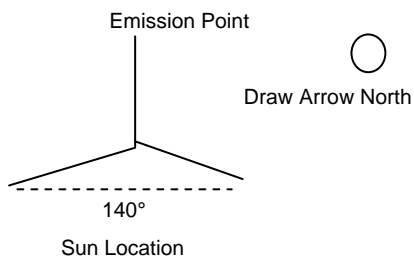
	Nozzle #	Nozzle #	Nozzle #
Point #	_____	_____	_____
D1	_____	_____	_____
D2	_____	_____	_____
D3	_____	_____	_____
Average (D <sub>N</sub> )	_____	_____	_____
	Metal Pyrex Quartz	Metal Pyrex Quartz	Metal Pyrex Quartz



$$D_n = \frac{D_1 + D_2 + D_3}{3}$$

The difference between the highest and lowest numbers shall not exceed 0.004 in.

Source Name:	Date:	Start Time				End Time					
Address:		Seconds					Seconds				
City:	Min	0	15	30	45	Min	0	15	30	45	
State:	1					31					
Zip:	2					32					
Phone:	3					33					
Source ID#:	4					34					
Describe Emission Point:	5					35					
Start	6					36					
End											
Height Above Ground Level	7					37					
Start	8					38					
Stop											
Height Relative to Observer	9					39					
Start	10					40					
Stop											
Distance From Observer	11					41					
Start	12					42					
Stop											
Describe Emissions	13					43					
Start	14					44					
Stop											
Emissions Color	15					45					
Start	16					46					
Stop											
Plume Type Continuous	17					47					
Fugitive Intermittent	18					48					
Water Droplets YES NO	19					49					
If Water Droplets Attached Detached	20					50					
Point of Plume at which Opacity was Determined	21					51					
Start	22					52					
Stop	23					53					
Describe Background	24					54					
Start	25					55					
Stop											
Sky Conditions	26					56					
Start	27					57					
Stop											
Wind Speed	28					58					
Start	29					59					
Stop											
Wind Direction	30					60					
Start											
Stop											
Average Opacity For Highest Period											
Ambient Temperature	Number of Readings Above %										
Start	Range Of Opacity Reading Minimum Maximum										
Stop											
Wet Bulb Temperature	Observer's Name (print)										
Start	Observer's Signature										
Stop											
RH %	Date:										



Organization \_\_\_\_\_  
 Certified By \_\_\_\_\_ Date \_\_\_\_\_  
 Verified By \_\_\_\_\_ Date \_\_\_\_\_  
 Comments \_\_\_\_\_

Client/Site: \_\_\_\_\_

Operator: \_\_\_\_\_

Source: \_\_\_\_\_

Date: \_\_\_\_\_

RM Response Time: \_\_\_\_\_

Upscale (seconds): \_\_\_\_\_

Downscale (seconds): \_\_\_\_\_

**Note:** System Response Time is the longer of the upscale and downscale response times. Performed during initial zero and bias checks:

### Analyzer Calibration Error (ACE) – Reference Method

Pollutant/Diluent	Low		Mid		High/Full Scale (CS)	
	Cylinder Value (C <sub>v</sub> )	Analyzer Response (C <sub>DIR</sub> )	Cylinder Value (C <sub>v</sub> )	Analyzer Response (C <sub>DIR</sub> )	Cylinder Value (C <sub>v</sub> )	Analyzer Response (C <sub>DIR</sub> )

**Range selected for analyzer operation:**

O <sub>2</sub>	CO <sub>2</sub>	CO	NO <sub>x</sub>	SO <sub>2</sub>

**Protocol Gases Used During Program:**

Cylinder No.	Diluent/Pollutant Concentrations(s)

**Analyzer Calibration Error (ACE) Acceptance Criteria:  $\leq \pm 2\%$**

Where:  $ACE = [(C_{Dir} - C_v)/CS] * 100\%$

Client/Site: \_\_\_\_\_  
 Source: \_\_\_\_\_

Operator: \_\_\_\_\_  
 Date: \_\_\_\_\_

Run Number: \_\_\_\_\_  
 Start Time: \_\_\_\_\_  
 End Time: \_\_\_\_\_

**System Bias (SB)/Drift (D) Assessments – Reference Method**

Pollutant/Diluent	Start Zero		Start Span (C <sub>MA</sub> )		Final Zero		Final Span (C <sub>MA</sub> )	
	Cylinder Value (C <sub>V</sub> )	Analyzer Response (C <sub>S</sub> )	Cylinder Value (C <sub>V</sub> )	Analyzer Response (C <sub>S</sub> )	Cylinder Value (C <sub>V</sub> )	Analyzer Response (C <sub>S</sub> )	Cylinder Value (C <sub>V</sub> )	Analyzer Response (C <sub>S</sub> )

**Range selected for analyzer operation:**

O <sub>2</sub>	CO <sub>2</sub>	CO	NO <sub>x</sub>	SO <sub>2</sub>

**Sampling System Bias (SB) Criteria:**  $\leq \pm 5\%$  of span for zero and upscale gas, where:

Where:  $SB = [(C_s - C_{sp})/CS] * 100\%$

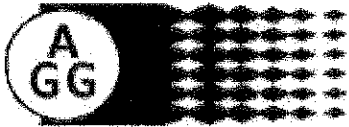
**Zero and Calibration Drift (D) Criteria:**  $\leq \pm 3\%$  of span, where

$D = |SB_{final} - SB_i|$

## **Appendix B**

### **Example Gas Cylinder Certification Sheets**





THE AMERICAN GAS GROUP

www.americangasgroup.com

### ANALYTICAL REPORT

**Certificate ID:** 061810024      **Date:** 6/18/2010  
**Customer Name:** Spec Air Gases & Technologies, ME  
**Customer Address:** 22 Albiston Way  
 Auburn ME 04210  
 800-292-6218  
**Purchase Order:** 64554      **Work Order:** 104962-01  
**Lot Number:** 0610HH10      **Product Name:** 3-Component Mixture, EPA Protocol  
**Size:** 31A      **Pressure:** 2015 psig @ 70 Deg F  
**Content:** N/A  
**Serial #:** EB0023129  
**Analysis Date:** 6/16/2010  
**Shelf Life:** 36 months      **Expiration Date:** 6/16/2013

<u>Component</u>	<u>Nominal</u>	<u>Actual</u>	<u>Accuracy</u>	<u>Method</u>
Oxygen	11.0%	11.0%	+/- 1% rel	Paramagnetic
Carbon Dioxide	9.50%	9.53%	+/- 1% rel	GC-TCD
Nitrogen	Balance	Balance		

<u>REFERENCE STANDARD</u>	<u>Std Type</u>	<u>Std #</u>	<u>Cyl #</u>	<u>Concentration</u>	<u>Exp Date</u>
	GMIS	0604JJ09	CC275865	21.0500	6/3/2011
	GMIS	0308JJ10	EB0009831	16.05%	3/4/2012

<u>INSTRUMENTATION</u>	<u>Instrument / ID</u>	<u>Component</u>
	Rosemount 755R	O2
	GOWMAC-580 TCD	CO2

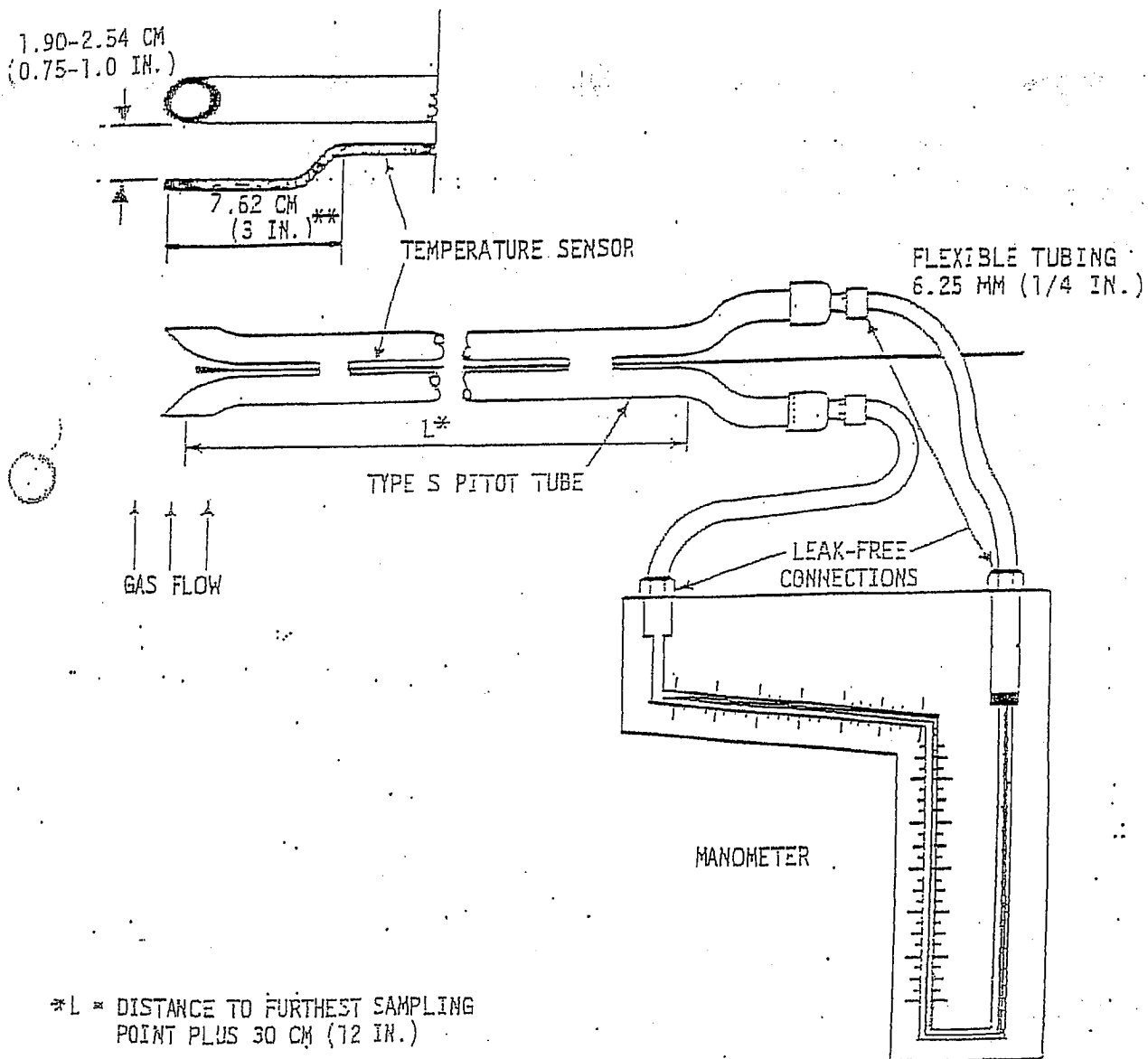
**Note:** \* ANALYZED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS - SEPTEMBER 1997:G1  
 \* DO NOT USE STANDARD WHEN PRESSURE IS BELOW 150 PSIG



Issued by: Josh Jones

## **Appendix C**

### **Sample Train Schematics & CEMS Equipment Specifications**



\*L = DISTANCE TO FURTHEST SAMPLING  
POINT PLUS 30 CM (12 IN.)

\*\*PITOT TUBE - TEMPERATURE SENSOR SPACING

Figure 1.1 Type S Pitot Tube-Manometer Assembly.

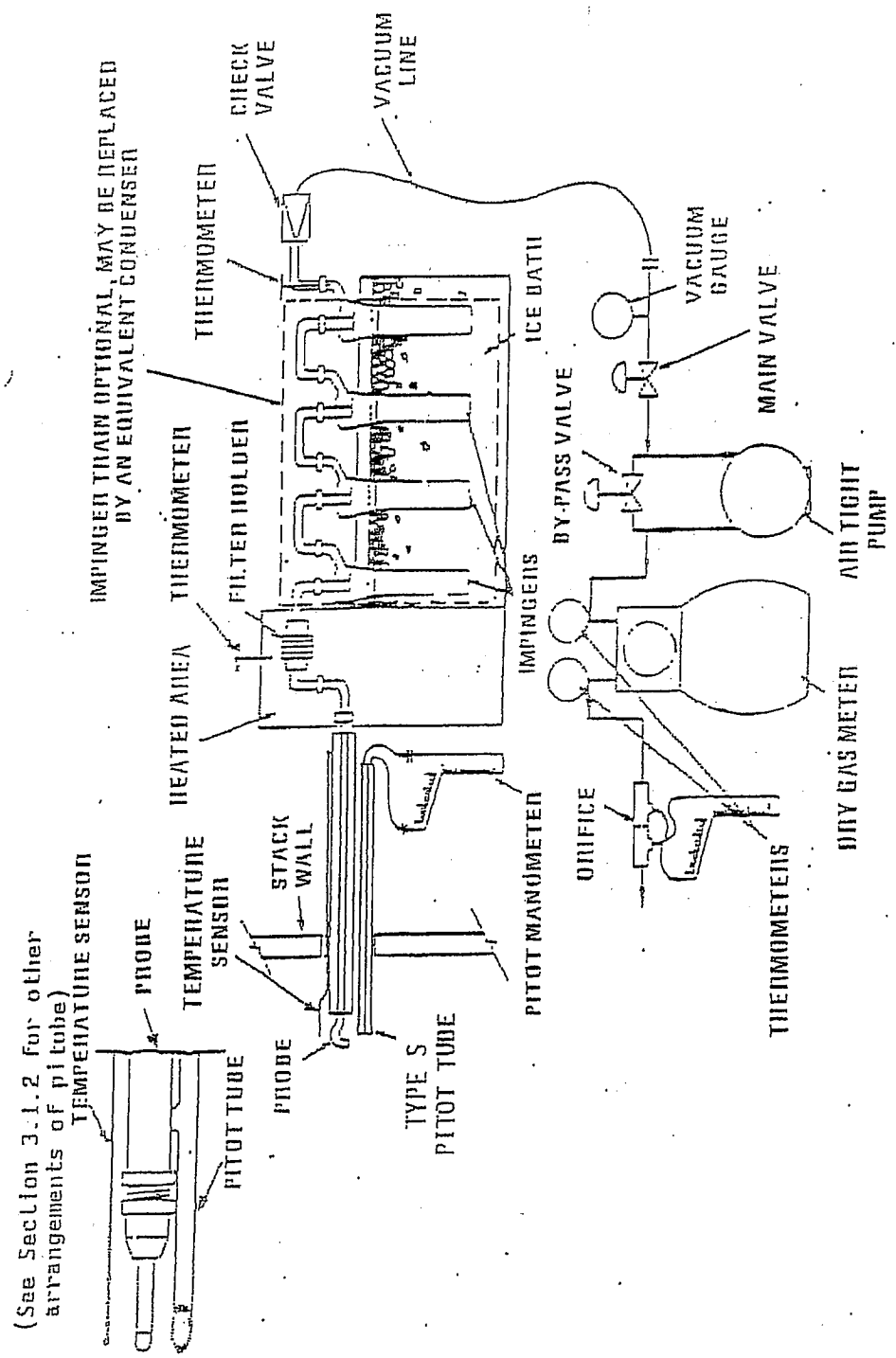
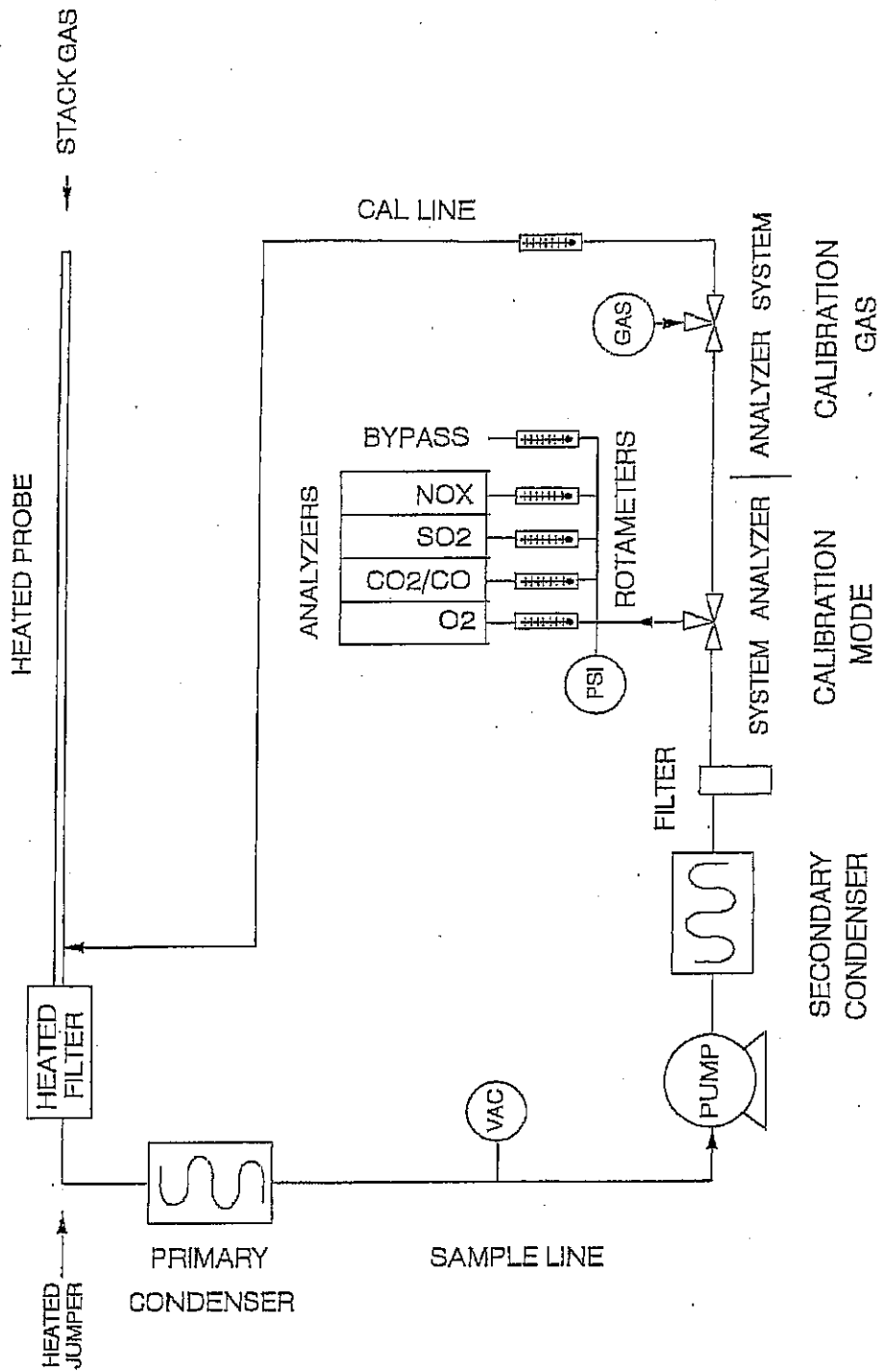


Figure 1.1 Schematic of Method 5 sampling train.

# EXTRACTIVE CEM SYSTEM





**EASTMOUNT ENVIRONMENTAL SERVICES**  
*Air Quality Specialists*

## **CONTINUOUS EMISSION MONITORING DESCRIPTION**

INSTRUMENT : Teledyne Oxygen (O<sub>2</sub>) Gas Analyzer  
MODEL #: 326A

### **PERFORMANCE SPECIFICATIONS:**

SENSITIVITY: Equipped with the following linear ranges: 0-1, 5, 25%

ACCURACY:  $\pm 1\%$  of scale at constant temperature

LINEARITY:  $\pm 1\%$  of full scale

RESPONSE TIME: 90% of full scale in 7 seconds at a flowrate of 2 scfm

OUTPUT: 4 - 20 mA in 1% range only

PRINCIPLE OF OPERATION: The stack gas is continuously extracted and a portion of the sample is introduced to an instrumental analyzer for determination of O<sub>2</sub> which uses a micro fuel cell that provides an electrical signal that is directly proportional to the oxygen concentration in the gas immediately adjacent to its sensing surface.

APPLICABLE EPA METHODS: 40CFR60 Appendix A Method 3A - Determination of Oxygen and Carbon Dioxide concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedures)



**EASTMOUNT ENVIRONMENTAL SERVICES**  
*Air Quality Specialists*

## **CONTINUOUS EMISSION MONITORING DESCRIPTION**

INSTRUMENT : Fuji Carbon Dioxide (CO<sub>2</sub>) Gas Analyzer  
MODEL #: 3400

### **PERFORMANCE SPECIFICATIONS:**

SENSITIVITY: Equipped with the range of 0 - 20%

ACCURACY:  $\pm 0.5\%$  of full scale

LINEARITY:  $\pm 2\%$  of full scale

RESPONSE TIME: For 90% indication the response time to actual gas is 15 seconds maximum

OUTPUT: 0 - 1V and 4 - 20 mA

PRINCIPLE OF OPERATION: The stack gas is continuously extracted and a portion of the sample is introduced to an instrumental analyzer for determination of CO<sub>2</sub> concentration using a nondispersive infrared (NDIR) single beam analyzer.

APPLICABLE EPA METHODS: 40CFR60 Appendix A Method 3A - Determination of Oxygen and Carbon Dioxide Emissions from Stationary Sources (Instrumental Analyzer Procedures)

## **Appendix D**

### **Facility Permit (0990234-022-AV)**



Solid Waste Authority of Palm Beach County  
North County Regional Resource Recovery Facility

Facility ID No. 0990234  
Palm Beach County

Title V Air Operation Permit Renewal

**Final Permit No. 0990234-022-AV**

(1<sup>st</sup> of Title V Air Operation Permit No. 0990234-020-AV)



**Permitting Authority:**

State of Florida  
Department of Environmental Protection  
Division of Air Resource Management  
Office of Permitting and Compliance  
2600 Blair Stone Road  
Mail Station #5505  
Tallahassee, Florida 32399-2400  
Telephone: (850) 717-9000  
Fax: (850) 717-9097

**Compliance Authority:**

State of Florida  
Department of Environmental Protection  
Southeast District Office  
400 North Congress Avenue  
West Palm Beach, FL 33401  
Telephone: (561) 681-6600  
Fax: (561) 681-6755

## Title V Air Operation Permit Renewal

Final Permit No. 0990234-020-AV

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III. Emissions Units and Conditions.	
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Appendix A, Glossary.	
Appendix ATP, U.S. EPA Alternative Test Procedure Approval dated June 3, 2004.	
Appendix BW, Biomedical Waste Definitions.	
Appendix CAM, Compliance Assurance Monitoring Plan.	
Appendix HGV, DEP Order Granting Variance for Mercury Testing dated August 25, 1997.	
Appendix I, List of Insignificant Emissions Units and/or Activities.	
Appendix RR, Facility-wide Reporting Requirements.	
Appendix TR, Facility-wide Testing Requirements.	
Appendix TV, Title V General Conditions.	
Appendix U, List of Unregulated Emissions Units and/or Activities.	
Appendix 40 CFR 60 Subpart A, NSPS General Provisions (version dated 2/5/2010).	
Appendix 40 CFR 60 Subpart Cb, Emissions Guidelines (EG) and Compliance Times for Large Municipal Waste Combustors (version dated 03/24/2010).	
Appendix 40 CFR 60 Subpart Eb, NSPS for Large Municipal Waste Combustors (version dated 04/21/2008).	
Appendix 40 CFR 60 Subpart IIII “Generally Applicable Requirements,” Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (version dated 07/11/2006).	
Appendix 40 CFR 60 Subpart WWW, NSPS for Municipal Solid Waste Landfills (version dated 08/06/2009).	
Appendix 40 CFR 61 Subpart A, NESHAP General Provisions (version dated 05/06/2004).	
Appendix 40 CFR 61 Subpart E, NESHAP for Mercury (version dated 03/20/03).	
Appendix 40 CFR 61 Subpart M “Set A,” NESHAP for Asbestos (version dated 08/19/2004).	
Appendix 40 CFR 63 Subpart A, NESHAP General Provisions (version dated 01/29/2008).	
Appendix 40 CFR 63 Subpart AAAA, NESHAP for Municipal Solid Waste Landfills (version dated 08/06/2009).	
Appendix 40 CFR 63 Subpart ZZZZ “Generally Applicable Requirements,” National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (version dated 06/30/2010).	

Referenced Attachments. ....	At End
DEP approval dated October 25, 2005 regarding Landfill Higher Wellhead Operating Temperature.	
DEP approval dated December 13, 2005 regarding Landfill Gas Well Inactivation Plan.	
Table 1, Summary of Air Pollutant Standards and Terms.	
Table 2, Compliance Requirements.	
Table E-1. Summary of Maintenance Requirements for Engines.	
Table L-1. Summary of Monitoring Requirements for MSW Landfills (40 CFR 60, Subpart WWW and 40 CFR 63, Subpart AAAA).	
Table L-2. Summary of Recordkeeping Requirements for MSW Landfills (40 CFR 60, Subpart WWW and 40 CFR 63, Subpart AAAA).	
Table L-3. Summary of Compliance Reporting Requirements for MSW Landfills (40 CFR 60, Subpart WWW and 40 CFR 63, Subpart AAAA).	
Table H, Permit History.	
U.S. EPA letter dated July 7, 1999 regarding CAM applicability for MWCs.	
U.S. EPA letter dated April 6, 2000 regarding Beryllium Containing Wastes.	
U.S. EPA approval letter dated June 7, 2002 regarding Reduction in Frequency of Surface Monitoring of Methane Gas Emissions.	
U.S. EPA e-mail dated January 22, 2009 regarding Testing Schedule for Fugitive Ash and HCl Emissions.	



# Florida Department of Environmental Protection

Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Rick Scott  
Governor

Jennifer Carroll  
Lt. Governor

Herschel T. Vinyard Jr.  
Secretary

**PERMITTEE:**

Solid Waste Authority of Palm Beach County

Permit No. 0990234-022-AV

North County Regional Resource Recovery Facility

Facility ID No. 0990234

Project: Title V Air Operation Permit Revision

The purpose of this permit is to revise the Title V air operation permit for the above referenced facility to reflect the refurbishment of the two existing municipal solid waste combustors (Units 1 and 2) previously authorized by Permit No. 0990234-015-AC/PSD-FL-108H and to incorporate minor revisions from Permit No. 0990234-021-AC/PSD-FL-108J, issued concurrently with this permit. This existing facility is located in Palm Beach County at 7501 North Jog Road, West Palm Beach; UTM Coordinates: Zone 17, 585.82 km East and 2960.474 km North; Latitude: 26° 45' 53" North and Longitude: 80° 08' 12" West.

This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 and 62-213. The above named permittee is hereby authorized to operate the facility in accordance with the terms and conditions of this permit.

Effective Date: January 20, 2012

Renewal Application Due Date: February 23, 2016

Expiration Date: October 5, 2016

Executed in Tallahassee, Florida

*Electronic Signature*

JFK/sa/sms

## SECTION I. FACILITY INFORMATION.

### **Subsection A. Facility Description.**

This existing facility is a municipal waste combustor plant designed to process 2,000 tons per day (TPD) of municipal solid waste (MSW). The facility burns processed MSW that is called “refuse derived fuel” (RDF). The RDF plant is equipped with three MSW processing lines, any two of which can handle the 2,000 TPD of incoming MSW. The boiler plant includes two Babcock & Wilcox (B&W) boilers (Nos. 1 and 2) with auxiliary burners. Each boiler was designed with a maximum heat input of 427.5 MMBtu/hr and a maximum steam production rating of 324,000 lbs/hour. At a reference heating value of 5,700 Btu/lb, this is equivalent to 900 TPD of RDF per boiler. The gross nominal electric generating capacity of the facility is 62 megawatts (MW).

Two landfills, a Class I Landfill and a Class III Landfill, each with its own gas collection system and flare, are located at the facility. Additional activities at the facility include: a composting facility, material processing systems, a metals recovery system, storage and handling systems for RDF; lime storage and processing facilities; storage and handling systems for ash and ash treatment; and, cooling towers. A biosolids pelletization facility (BPF) is located adjacent to the existing landfill.

The facility is owned by the Solid Waste Authority.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

### **Subsection B. Summary of Emissions Units.**

E.U. ID No.	Brief Description
<i>Regulated Emissions Units</i>	
001	Municipal Solid Waste Boiler No. 1
002	Municipal Solid Waste Boiler No. 2
019	Ash Building and Handling System
	Landfills and Flares
004	Class III Landfill and Flare (1,800 scfm, manufactured by LFG Specialties, model number PCF820I8)
008	Class I Landfill and Flare (3,500 scfm, manufactured by Shaw LFG Specialties, model number CF1238I10)
	Biosolids Pelletization Facility (BPF)
010	BPF Sludge Dryer Train #1
011	BPF Sludge Dryer Train #2
012	BPF Recycle Material Bin and Pellet Storage Silo for Sludge Dryer Train #1
014	BPF Recycle Material Bin and Pellet Storage Silo for Sludge Dryer Train #2
	Engines
016	Emergency Generator - Biosolids Pelletization Facility (BPF) (EPA Tier 3 certified)
017	Woody Waste Facility Diesel Engine (primary engine)
021	Emergency Generator - Operations Building (EPA Tier 3 certified)

**SECTION I. FACILITY INFORMATION.**

<b>E.U. ID No.</b>	<b>Brief Description</b>
035	Emergency Generator - North County Resource Recovery Facility (NCRRF)
036	Fire Water Pump - NCRRF
037	Emergency Generator - NCRRF Scalehouse
038	Emergency Generator - Utilities Facility
039	Emergency Generator - Landfill Scalehouse E1
040	Emergency Generator - Landfill Scalehouse E2
041	Emergency Generator - MIS
042	Emergency Generator - Administration
043	Emergency Generator - Materials Recovery Facility (MRF) (EPA Tier 2 certified)
<i>Unregulated Emissions Units and/or Activities</i>	
005	RDF Storage
006	RDF Processing Lines
007	Oversized Bulk Waste Processing Line
018	Cooling Towers (3) at North County Resource Recovery Facility (RRF) {The cooling towers do no not use chromium-based water treatment chemicals. }
044	Woody Waste Facility Diesel Engine (EPA Tier 1 certified) (backup engine)

**SECTION I. FACILITY INFORMATION.**

**Subsection C. Applicable Requirements.**

Based on the Title V air operation permit application renewal received on November 17, 2010, this facility is a major source of hazardous air pollutants (HAP). This facility is classified as a Prevention of Significant Deterioration (PSD) major facility. A summary of important applicable requirements is shown in the following table.

<b>Applicable Requirement</b>	<b>E.U. ID No(s).</b>
Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD)	001, 002 & 019 010, 011, 012 & 014
Rule 62-212.400(6), F.A.C., Best Available Control Technology (BACT)	001, 002, 019 010, 011, 012 & 014
40 CFR 60, Subpart A, New Stationary Source Performance Standards (NSPS) General Provisions	001, 002 & 019
40 CFR 60, Subpart Cb, Emissions Guidelines (EG) and Compliance Times for Large Municipal Waste Combustors	001, 002 & 019
Rule 62-296.416, F.A.C., Waste-to-Energy Facilities	001 & 002
Rule 62-210.300, F.A.C., Permits Required	004 & 008
Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD)	004 & 008
40 CFR 60, Subpart A, New Stationary Source Performance Standards (NSPS) General Provisions	004 & 008
40 CFR 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills	004 & 008
40 CFR 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Asbestos	004 & 008
40 CFR 63, Subpart A, General Provisions	004 & 008
40 CFR 63, Subpart AAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills	004 & 008
40 CFR 61, Subpart E, National Emission Standards for Hazardous Air Pollutants for Mercury	010 & 011
40 CFR 64, Compliance Assurance Monitoring (CAM)	010 & 011
40 CFR 63, Subpart A, General Provisions	016, 017, 021 & 035-044
40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE)	016, 017, 021 & 035-044
40 CFR 60, Subpart A, General Provisions	016, 021, 042 & 043
40 CFR 60, Subpart IIII, NSPS for Compression Ignition Internal Combustion Engines (CI-ICE)	016, 021, 042 & 043

## SECTION II. FACILITY-WIDE CONDITIONS.

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**The following conditions apply facility-wide to all emission units and activities:**

**FW1. Appendices.** The permittee shall comply with all documents identified in Section IV., Appendices, listed in the Table of Contents. Each document is an enforceable part of this permit unless otherwise indicated. [Rule 62-213.440, F.A.C.]

### **Emissions and Controls**

**FW2. Not federally enforceable. Objectionable Odor Prohibited.** No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An “objectionable odor” means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-296.320(2) & 62-210.200 (Definitions), F.A.C.]

**FW3. General Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions.** The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]

*{Permitting note: Nothing is deemed necessary and ordered at this time.}*

**FW4. General Visible Emissions.** No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20% opacity. EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b), F.A.C.]

**FW5. Unconfined Particulate Matter.** No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction; alteration; demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include:

- a. Chemical or water application to unpaved road and unpaved yard and landfill areas;
- b. Paving and maintenance of roads, parking areas and yards;
- c. Landscaping or planting of vegetation;
- d. Confining abrasive blasting where possible and appropriate;
- e. Unpaved roads and active unpaved areas are sprayed with a water truck;
- f. Landfill areas that are closed are promptly re-vegetated;
- g. Ash is quenched with water prior to landfilling; and,
- h. Waste transfer trucks are tarped.

[Rule 62-296.320(4)(c), F.A.C. and proposed by applicant in Title V air operation permit renewal application received on November 17, 2010.]



## SECTION II. FACILITY-WIDE CONDITIONS.

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### **Annual Reports and Fees**

See Appendix RR, Facility-wide Reporting Requirements, for additional details.

**FW6. Annual Operating Report.** The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by April 1<sup>st</sup> of each year. [Rule 62-210.370(3), F.A.C.]

**FW7. Annual Emissions Fee Form and Fee.** The annual Title V emissions fees are due (postmarked) by March 1<sup>st</sup> of each year. The completed form and calculated fee shall be submitted to: Major Air Pollution Source Annual Emissions Fee, P.O. Box 3070, Tallahassee, Florida 32315-3070. The forms are available for download by accessing the Title V Annual Emissions Fee On-line Information Center at the following Internet web site: <http://www.dep.state.fl.us/air/emission/tvfee.htm>. [Rule 62-213.205, F.A.C.]

**FW8. Annual Statement of Compliance.** The permittee shall submit an annual statement of compliance to the compliance authority at the address shown on the cover of this permit within 60 days after the end of each calendar year during which the Title V air operation permit was effective. [Rules 62-213.440(3)(a)2. & 3. and (b), F.A.C.]

**FW9. Prevention of Accidental Releases (Section 112(r) of CAA).** If and when the facility becomes subject to 112(r), the permittee shall:

- a. Submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center. Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent to: RMP Reporting Center, Post Office Box 10162, Fairfax, VA 22038, Telephone: 703/227-7650.
- b. Submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C.

[40 CFR 68.]

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection A. Emissions Units 001, 002 & 019**

**The specific conditions in this section apply to the following emissions unit(s):**

<b>E.U. ID No.</b>	<b>Brief Description</b>
001	Municipal Solid Waste Boiler No. 1
002	Municipal Solid Waste Boiler No. 2
019	Ash Building and Handling System

*Description:* Units 1 and 2 are identical Babcock & Wilcox MSWC units that began commercial operation on November 15, 1989. The following descriptions include the changes being made in this permit.

*Boiler Type:* The boiler use a moving grate to burn the RDF fuel.

*Fuel:* RDF

*Supplementary Fuel:* Natural gas is used for startup, shutdown and during combustion of low Btu waste to maintain combustor temperature.

*Capacity:* The permitted capacity is 324,000 pounds per hour of steam (4-hour block average) based on a unit design capacity of 900 tons per day of RDF.

*Generator Nameplate Rating:* 62 Megawatts (MW).

*Spray Dryer Absorber (SDA):* Each unit uses lime injection to control acid gas emissions.

*Fabric Filter System:* Each unit uses a fabric filter system to control particulate matter (PM) emissions.

*Combustion Control System and OFA System:* Each unit optimizes furnace conditions with an automated control system and OFA system for proper combustion while minimizing carbon monoxide (CO), nitrogen oxides (NOx) and volatile organic compounds (VOC).

*SNCR System:* Each unit injects urea with an SNCR system to control NOx emissions.

*ACI System:* Each unit injects activated carbon to adsorb metal and dioxin/furan emissions, which are then collected by the fabric filter system.

*Continuous Monitors:* Each unit uses the following equipment to continuously monitor the following pollutants and parameters: continuous emissions monitoring systems (CEMS) for CO, carbon dioxide (CO<sub>2</sub>), NOx and sulfur dioxide (SO<sub>2</sub>); continuous opacity monitoring system (COMS) for opacity; and continuous monitoring systems (CMS) for the temperature of the flue gas stream at the fabric filter inlet, the steam production rate and urea injection rate.

*Stack Parameters:* Units 1 and 2 each have a stack that is 250 feet tall with a diameter of 8 feet and are both surrounded by a single stack shell. The volumetric flow rates of each MSWC at permitted capacity are approximately 191,494 actual cubic feet per minute (acfm) and 116,274 dry standard cubic feet per minute (dscfm) @ 7% oxygen (O<sub>2</sub>).

*Exit Temperature:* Approximately 310 °F, as measured downstream of the SDA.

Emissions Unit ID No. 019 is the Ash Building and Handling System. Fly ash from the fabric filter system is wetted to control the dust and minimize fugitive emissions. Bottom ash from the RDF boilers is combined with the fly ash prior to going to the landfill (see Subsection III.B.). Emissions from the building are uncontrolled.

*{Permitting notes: These emissions units are regulated under 40 CFR 60, Subpart Cb, Emissions Guidelines (EG) and Compliance Times for Large Municipal Waste Combustors (MWC) adopted and incorporated by reference in Rule 62-204.800(9)(b), F.A.C.; Rule 62-296.416, F.A.C., Waste-to-Energy Facilities; Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD) [PSD-FL-108, as amended]; Rule 62-212.400(6), F.A.C., Best Available Control Technology (BACT); and, Florida Electrical Power Plant Site Certifications [PA84-20].}*

**Essential Potential to Emit (PTE) Parameters**

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units 001, 002 & 019

- A.1. Hours of Operation.** These emissions units may operate continuously (8,760 hours/year). [Rule 62-210.200 (Definitions - Potential to Emit (PTE)), F.A.C.; and, Permit No. 0990234-015-AC/PSD-FL-108H.]
- A.2. Capacity.** The following maximum values (capacities) shall not be exceeded:
- 324,000 lbs/hr individual MWC unit steam production on a 4-hour block arithmetic average.  
The MWC units shall not be loaded in excess of their maximum operating capacity, equivalent to 2,000 TPD of mixed MSW. See 40 CFR 60.31b of Appendix 40 CFR 60, Subpart Cb and 40 CFR 60.58b(j) of Appendix 40 CFR 60, Subpart Eb for additional restrictions on capacity. [Rules 62-4.160(2) & 62-210.200 (PTE), F.A.C.; 40 CFR 60.31b & 40 CFR 60.58b(j); and, Permit No. 0990234-015-AC/PSD-FL-108H.]
- A.3. Emissions Unit Operating Rate Limitation After Testing.** See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. See the “maximum demonstrated municipal waste combustor unit load” provisions of 40 CFR 60.34b(b) and 40 CFR 60.51b for additional restrictions on operating rate. [Rule 62-297.310(2), F.A.C.; and, 40 CFR 60.34b(b) & 40 CFR 60.51b.]
- A.4. MWCs - Fuels.** The open storage of solid waste outside of a building is prohibited. [PSD-FL-108A, specific condition 10.]
- A.5. MWCs - Methods of Operation - Fuels.**
- Allowable Fuels.**
    - The only fuels allowed to be burned in the MWCs are mixed municipal solid waste (MSW) from RDF, with natural gas as an auxiliary fuel. Other fuels or wastes, not specifically listed herein, shall not be burned without written prior approval from the Department. Fuels or wastes specifically authorized herein do not require prior Department approval before combustion.
    - The primary fuel for the facility is mixed municipal solid waste (MSW) from RDF, including the items and materials that fit within the definition of MSW contained in either 40 CFR 60.51b or Section 403.706(5), Florida Statutes (2010).
  - Unauthorized Fuels.** Subject to the limitations contained in this permit, the authorized fuels for the facility also include the other solid wastes that are not MSW, which are described in **d. - f.**, below. However, the facility
    - shall not burn:**
      - those materials that are prohibited by state or federal law;
      - those materials that are prohibited by this permit;
      - lead acid batteries;
      - hazardous waste;
      - nuclear waste;
      - radioactive waste;
      - sewage sludge;
      - sewage sludge from sewage treatment plants <sup>1</sup>;
      - explosives;
      - beryllium-containing waste, as defined in 40 CFR 61, Subpart C. *{The U.S. EPA letter dated April 6, 2000 (see attached), on 40 CFR 61, Subpart C further addresses the applicability of this federal regulation with regard to beryllium-containing waste(s).}*
    - and **shall not knowingly burn:**
      - untreated biomedical waste from biomedical waste generators regulated pursuant to Chapter 64E-16, F.A.C., and from other similar generators (or sources). See the attached Appendix BW, Biomedical Waste Definitions, for definitions of what constitutes biomedical waste;
      - segregated loads of biological waste.
  - Fuel Handling.** The fuel may be received either as a mixture or as a single-item stream (segregated load) of discarded materials. If the facility intends to use an authorized fuel that is segregated non-MSW material, the fuel shall be well mixed with MSW. For the purposes of this permit, a segregated load is defined to mean a container or truck that is almost completely or exclusively filled with a single item or homogeneous composition of waste material, as determined by visual observation.

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units 001, 002 & 019

- d. *Other Solid Waste.* Subject to the conditions and limitations contained in this permit, the following other solid waste may be used as fuel at the facility:
- (1) Confidential, proprietary or special documents (including but not limited to business records, lottery tickets, event tickets, coupons and microfilm);
  - (2) Contraband which is being destroyed at the request of appropriately authorized local, state or federal governmental agencies, provided that such material is not an explosive, a propellant, a hazardous waste, or otherwise prohibited at the facility. For the purposes of this section, contraband includes but is not limited to drugs, narcotics, fruits, vegetables, plants, counterfeit money, and counterfeit consumer goods;
  - (3) Wood pallets, clean wood, and land clearing debris;
  - (4) Packaging materials and containers;
  - (5) Clothing, natural and synthetic fibers, fabric remnants, and similar debris, including but not limited to aprons and gloves; or
  - (6) Rugs, carpets, and floor coverings, but not asbestos-containing materials or polyethylene or polyurethane vinyl floor coverings.
- e. *Waste Tires.* Subject to the conditions and limitations contained in this permit, waste tires may be used as fuel at the facility. The total quantity of waste tires received as segregated loads and burned at the facility shall not exceed 3%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined on a calendar month basis.
- f. *Non-MSW Material.* Subject to the conditions and limitations contained in this permit, the following other solid waste materials may be used as fuel at the facility (i.e., the following are authorized fuels that are non-MSW material). The total quantity of the following non-MSW material received as segregated loads and burned at the facility shall not exceed 5%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined on a calendar month basis.
- (1) Construction and demolition debris.
  - (2) Oil spill debris from aquatic, coastal, estuarine or river environments. Such items or materials include but are not limited to rags, wipes, and absorbents.
  - (3) Items suitable for human, plant or domesticated animal use, consumption or application where the item's shelf-life has expired or the generator wishes to remove the items from the market. Such items or materials include but are not limited to off-specification or expired consumer products, pharmaceuticals, medications, health and personal care products, cosmetics, foodstuffs, nutritional supplements, returned goods, and controlled substances.
  - (4) Consumer-packaged products intended for human or domesticated animal use or application but not consumption. Such items or materials include but are not limited to carpet cleaners, household or bathroom cleaners, polishes, waxes and detergents.
  - (5) Waste materials that:
    - (a) are generated in the manufacture of items in categories **f.(3)** or **f.(4)**, above and are functionally or commercially useless (expired, rejected or spent); or
    - (b) are not yet formed or packaged for commercial distribution. Such items or materials must be substantially similar to other items or materials routinely found in MSW.
  - (6) Waste materials that contain oil from:
    - (a) the routine cleanup of industrial or commercial establishments and machinery; or
    - (b) spills of virgin or used petroleum products. Such items or materials include but are not limited to rags, wipes, and absorbents.
  - (7) Used oil and used oil filters. Used oil containing a polychlorinated biphenyls (PCB) concentration equal or greater than 50 parts per million (ppm) shall not be burned, pursuant to the limitations of 40 CFR 761.20(e).
  - (8) Waste materials generated by manufacturing, industrial or agricultural activities, provided that these items or materials are substantially similar to items or materials that are found routinely in MSW, subject to written prior approval of the Department.

[Rules 62-4.070(1), (3), 62-213.410 & 62-213.440, F.A.C.; and, <sup>1</sup> PSD-FL-108A, specific condition 11.]

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units 001, 002 & 019

*{Permitting note: At RDF plants, the 3% (or 5%) restriction applies to the municipal solid waste received. On-site processing of material at the facility is not included in this restriction. Exceedance of this percentage requires prior department approval.}*

- A.6. Auxiliary Burners - Methods of Operation - Fuels.** Auxiliary burners for each MWC shall be fired only with natural gas. Natural gas may be used as a supplemental fuel during startups, shutdowns, and at other times when necessary and consistent with good combustion practices. [Rules 62-4.160(2), 62-210.200 (PTE), 62-213.410, & 62-213.440, F.A.C.; and, PSD-FL-108A.]
- A.7. Auxiliary Gas Burner Operations.**
- During boiler startup, the auxiliary gas burners shall be operating at their maximum capacity prior to the introduction of RDF to the boilers, and shall remain in operation until the lime spray dryer absorbers and particulate matter emissions control device (fabric filter system) are fully operational.
  - During normal, non-emergency boiler shutdown, the auxiliary gas burners shall be operated at their maximum capacity until all RDF has been combusted.  
[Rules 62-4.160(2), 62-210.200 (PTE), 62-213.410, & 62-213.440, F.A.C.; 0992034-015-AC/PSD-FL-108H; and, PSD-FL-108A, specific conditions 7. & 8.]

### **Air Pollution Control Technologies and Measures**

- A.8. Carbon Usage Rate.** The carbon injection rate operating standard and monitoring requirements set forth in 40 CFR 60.58b(m) of 40 CFR 60, Subpart Eb, incorporated by reference in Rule 62-204.800, F.A.C., shall apply. See Appendix 40 CFR 60, Subpart Eb. [Rule 62-296.416(5), F.A.C.]

### **Emission Limitations and Standards**

*{Permitting note: Table 1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}*

Unless otherwise specified, the averaging times for Specific Conditions **A.9. - A.19.** are based on the specified averaging time of the applicable test method.

*{Permitting note: The May 10, 2006 amendments to 40 CFR 60 Subpart Cb changed some of the emission standards and limitations for Unit Nos. 1 & 2. Five (5) air pollutant standards/limitations were lowered under the amendments: PM, cadmium (Cd), Hg, Pb and dioxin/furan (D/F).}*

### **Stack Emissions**

- A.9. Particulate Matter.** The emission limit for particulate matter (PM) contained in the gases discharged to the atmosphere is 25 milligrams (mg) per dry standard cubic meter, corrected to 7 percent oxygen. [Rule 62-204.800(9)(b)3.a., F.A.C.; 40 CFR 60.33b(a)(1)(i); and, PSD-FL-108A, specific condition 3.a.]
- A.10. Opacity.** As determined by the continuous opacity monitoring system (COMS) or EPA Method 9, the emission limit for opacity exhibited by the gases discharged to the atmosphere is 10 percent (6-minute average). [Rule 62-204.800(9)(b)3.b., F.A.C.; 40 CFR 60.33b(a)(1)(iii); and, PSD-FL-108A, specific condition 3.k. & Permit No. 0990234-015-AC/PSD-FL-108H, specific condition 17.e.]
- A.11. Cadmium.** The emission limit for cadmium (Cd) contained in the gases discharged to the atmosphere is 35 micrograms (ug) per dry standard cubic meter, corrected to 7 percent oxygen. [Rule 62-204.800(9)(b)3.c., F.A.C. and 40 CFR 60.33b(a)(2)(i).]
- A.12. Mercury.** The emission limit for mercury (Hg) contained in the gases discharged to the atmosphere is 50 micrograms per dry standard cubic meter or 15 percent of the potential mercury emission concentration (85-percent reduction by weight), corrected to 7 percent oxygen, whichever is less stringent. [Rule 62-204.800(9)(b)3.d., F.A.C.; 40 CFR 60.33b(a)(3); and, PSD-FL-108A, specific condition 3.e.]

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units 001, 002 & 019

- A.13. Lead.** The emission limit for lead (Pb) contained in the gases discharged to the atmosphere is 400 micrograms per dry standard cubic meter, corrected to 7 percent oxygen. [Rule 62-204.800(9)(b)3.c., F.A.C.; 40 CFR 60.33b(a)(4); and, PSD-FL-108A, specific condition 3.d.]
- A.14. Sulfur Dioxide.** As determined by the continuous emissions monitoring system (CEMS), the emission limit for sulfur dioxide (SO<sub>2</sub>) contained in the gases discharged to the atmosphere is 29 parts per million by volume (ppmv) or 25 percent of the potential sulfur dioxide emission concentration (75-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent. Compliance with this emission limit is based on a 24-hour daily geometric mean. [Rule 62-204.800(9)(b)3.e., F.A.C.; 40 CFR 60.33b(b)(3)(i); and, PSD-FL-108A, specific condition 3.i. & Permit No. 0990234-015-AC/PSD-FL-108H, specific condition 17.d.]
- A.15. Hydrogen Chloride.** The emission limit for hydrogen chloride (HCl) contained in the gases discharged to the atmosphere is 25 parts per million by volume or 5 percent of the potential hydrogen chloride emission concentration (95-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent. [Rule 62-204.800(9)(b)3.f., F.A.C.; 40 CFR 60.33b(b)(3)(ii); and, PSD-FL-108A, specific condition 3.j.]
- A.16. Dioxin/Furan.** The emission limit for dioxin/furan (D/F) contained in the gases discharged to the atmosphere from designated facilities that do not employ an electrostatic precipitator-based emission control system is 30 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen. [Rule 62-204.800(9)(b)3.g., F.A.C.; 40 CFR 60.33b(c)(1)(iii); and, 0990234-021-AC/PSD-FL-108J]
- A.17. Nitrogen Oxides.** As determined by the CEMS, the emission limit for nitrogen oxides (NO<sub>x</sub>) contained in the gases discharged to the atmosphere from a refuse derived fuel type municipal waste combustor technology is 250 parts per million by volume, corrected to 7 percent oxygen, dry basis. Compliance with this emission limit is based on the 24-hour daily arithmetic average of the hourly emission concentrations using continuous emission monitoring system outlet data. Emissions averaging pursuant to 40 CFR 60.33b(d)(1) shall be allowed. 40 CFR 60.33b(d)(2) shall not apply. [Rule 62-204.800(9)(b)3.h., F.A.C.; 40 CFR 60.33b(d); and, PSD-FL-108A, specific condition 3.b. & Permit No. 0990234-015-AC/PSD-FL-108H, specific condition 17.d.]
- A.18. Carbon Monoxide.** As determined by the CEMS:
- the emission limit for carbon monoxide (CO) contained in the gases discharged to the atmosphere from a refuse derived fuel stoker type municipal waste combustor technology is 200 parts per million by volume (ppmvd), measured at the combustor outlet in conjunction with a measurement of oxygen concentration, corrected to 7 percent oxygen, dry basis, and calculated on a 24-hour block average. Calculated as an arithmetic average. [Rule 62-204.800(9)(b)3.i., F.A.C.; 40 CFR 60.34b(a); and, Permit No. 0990234-015-AC/PSD-FL-108H, specific condition 17.d.]
  - CO emissions shall not exceed 400 ppmvd, corrected to 7 percent oxygen, dry basis, and calculated on a 4-hour block average. [Permit No. 0990234-015-AC/PSD-FL-108H, specific conditions 3.c. & 17.d.]
- A.19. Volatile Organic Compounds.** Volatile organic compound (VOC) emissions shall not exceed  $1.6 \times 10^{-2}$  lb/MMBtu. [PSD-FL-108A, specific condition 3.h.]

#### **Fugitive Ash Emissions**

- A.20. (This condition only applies to the ash conveying systems of E.U. ID No. 019.) Fugitive Ash Emissions.**
- No owner or operator of an affected facility shall cause to be discharged to the atmosphere visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) in excess of 5 percent of the observation period (i.e., 9 minutes per 3-hour period), as determined by EPA Reference Method 22 observations as specified in 40 CFR 60.58b(k), except as provided in paragraphs b. and c.

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- b. The emission limit specified in paragraph a. does not cover visible emissions discharged inside buildings or enclosures of ash conveying systems; however, the emission limit specified in paragraph a. does cover visible emissions discharged to the atmosphere from buildings or enclosures of ash conveying systems.
- c. The provisions of paragraph a. do not apply during maintenance and repair of ash conveying systems. [Rule 62-204.800(9)(b)6., F.A.C.; and, 40 CFR 60.36b and 40 CFR 60.55b.]

#### Excess Emissions

Rule 62-210.700 (Excess Emissions), F.A.C., cannot vary any requirement of an EG, NSPS or NESHAP provision.

- A.21. Excess Emissions Allowed - Startup, Shutdown or Malfunction.** Excess emissions resulting from startup, shutdown or malfunction shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. The Department authorizes three hours per occurrence in any 24-hour period for these emissions units. A malfunction means any unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. [Rules 62-210.700(1) & (5), F.A.C. and PSD-FL-108A, specific condition 15.]
- A.22. Excess Emissions Prohibited.** Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]

#### Continuous Monitoring Requirements

*{Permitting note: The following continuous monitors are installed on these emissions units: steam flow, urea injection rate, ACI rate, inlet temperature to the fabric filter, opacity, SO<sub>2</sub>, NO<sub>x</sub>, CO and carbon dioxide (CO<sub>2</sub>).}*

- A.23.1. Steam Flow Meter.** The owner or operator shall calibrate, maintain, and operate a steam flow meter or a feedwater flow meter; to measure steam (or feedwater) flow in kilograms per hour (or lbs/hour) on a continuous basis; and record the output of the monitor. Steam (or feedwater) flow shall be calculated in 4-hour block arithmetic averages. [Rule 62-213.440, F.A.C.; 40 CFR 60.34b, 40 CFR 60.53b & 40 CFR 60.58b(i)(6); and, PSD-FL-108A.]
- A.23.2. Urea Injection Rate:** The permittee shall calibrate, operate and maintain a CMS to continuously monitor and record the urea injection rate of each SNCR system. [0990234-015-AC/PSD-FL-108H]
- A.23.3. ACI Rate:** The permittee shall calibrate, operate and maintain a CMS to continuously monitor and record the ACI injection rate of each ACI system. [0990234-015-AC/PSD-FL-108H]
- A.24. Inlet Temperature to Particulate Matter Control Device.** The owner or operator shall calibrate, maintain, and operate a device for measuring on a continuous basis the temperature of the flue gas stream at the inlet to each particulate matter control device utilized. Temperature shall be calculated in 4-hour block arithmetic averages. [Rule 62-213.440, F.A.C.; 40 CFR 60.34b, 40 CFR 60.53b & 40 CFR 60.58b(i)(7); and, 0990234-015-AC/PSD-FL-108H]
- A.25. Continuous Emissions Monitoring Systems (CEMS) Required.** The owner or operator shall calibrate, operate and maintain continuous emissions monitoring systems (CEMS) for monitoring opacity, sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO). [Rule 62-213.440, F.A.C.; and, 40 CFR 60.38b; 40 CFR 60.58b(c)(8) (opacity); 40 CFR 60.58b(e)(5) (SO<sub>2</sub>); 40 CFR 60.58b(h)(4) (NO<sub>x</sub>) & 40 CFR 60.58b(i)(3) (CO).]
- A.26. Oxygen (O<sub>2</sub>) or Carbon Dioxide (CO<sub>2</sub>) CEMS.** The owner or operator shall calibrate, maintain, and operate a continuous emission monitoring system (CEMS) for measuring the oxygen or carbon dioxide content of the flue gas at each location where carbon monoxide, sulfur dioxide, or nitrogen oxides emissions are monitored and record the output of the system. [Rule 62-213.440, F.A.C. and 40 CFR 60.38b, & 40 CFR 60.58b(b).]

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection A. Emissions Units 001, 002 & 019**

**Test Methods and Procedures**

*{Permitting note: Table 2, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}*

**A.27. Test Methods.** Required tests shall be performed in accordance with the following reference methods:

<b>Method(s)</b>	<b>Description of Method(s) and Comment(s)</b>
EPA Methods 1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
EPA Methods 5	Methods for Determining PM Emissions
EPA Methods 6, 6A, 6C or 8	Methods for Determining SO <sub>2</sub> Emissions
EPA Method 7, 7A, 7B, 7C, 7D or 7E	Determination of NO <sub>x</sub> Emissions
EPA Method 9	Visual Determination of the Opacity of Emissions (VE)
EPA Method 10, 10A or 10B	Determination of CO Emissions
EPA Method 12	Determination of Pb Emissions
EPA Method 19	Determination of “F” factors used in determining heating value of RDF
EPA Method 22	Visual Determination of Fugitive Emissions from Material Sources
EPA Method 23	Measurement of D/F Emissions. Authorized to omit methylene chloride rinse. <sup>1</sup>
EPA Method 25 or 25A	Determination of VOC Emissions
EPA Method 26 or 26A	Determination of HCl Emissions from Stationary Sources. Changes were approved to the EPA Method 26 testing methodology. <sup>2</sup>
EPA Method 29	Determination of Metal (e.g., Cd, Hg and Pb) Emissions from Stationary Sources
EPA Method 101A	Determination of Hg Emissions

The above methods are described in Chapter 62-297, F.A.C. and/or 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Chapter 62-297, F.A.C.; Rule 62-204.800(9)(b)7., F.A.C.; PSD-FL-108A; <sup>1</sup> Appendix ATP, U.S. EPA Alternative Test Procedure Approval dated June 3, 2004; and, <sup>2</sup> Permit No. 0990234-019-AC/PSD-FL-108I.]

**A.28. Common Testing Requirements.** Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

**A.29. Annual Compliance Test.** The owner or operator shall conduct a performance test for PM, opacity, Cd, Hg, Pb and D/F emissions on a calendar year basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test; and must complete five performance tests in each 5-year calendar period). For each required cadmium, dioxin/furan, lead, mercury, and PM test run, the permittee shall also record and report the actual ACI rate, lime injection rate, and temperature data for the fabric filter system. The owner or operator shall conduct a performance test for HCl emissions on an annual



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basis. For each required hydrochloric acid test run, the permittee shall also record and report the actual lime injection rate. [Rule 62-297.310(8), F.A.C. [Rules 62-297.310(7) & 62-204.800(9)(b)7., F.A.C. and PSD-FL-108A, specific condition 4. and PSD-FL-108H]

- A.30. VOC Emission Testing.** Compliance with the VOC limit shall be demonstrated by compliance with both Carbon Monoxide limits in lieu of stack testing, but should the Department feel the VOC limit is not being met, a special compliance test could be required. [0990234-021-AC/PSD-FL-108J]
- A.31. Dioxins/Furans.** The alternative performance testing schedule for dioxins/furans (D/F) specified in 40 CFR 60.58b(g)(5)(iii) (See Appendix 40 CFR 60, Subpart Eb) shall apply to municipal waste combustor plants that achieve a dioxin/furan emission level less than or equal to **15** nanograms per dry standard cubic meter, corrected to 7 percent oxygen. [Rule 62-204.800(9)(b)7.b, F.A.C.]
- A.32. HCl Emission Testing.** EPA Method 26 shall be used for the determination of hydrochloric acid concentration or other methods approved by DEP and EPA. The permittee may modify the EPA Method 26 sampling train as follows: full-size (Greenburg-Smith design) impingers may be used in lieu of midjet impingers; and, the two sodium hydroxide (NaOH) impingers may be replaced with one empty impinger. [Permit No. 0990234-019-AC/PSD-FL-108I, specific condition 4.i.]
- A.33. Mercury Testing Frequency.** The Department’s Order Granting Variance dated August 25, 1997, is a part of this permit. The variance allows the facility to test mercury emissions annually provided each future annual test demonstrates compliance. The order contains additional terms. If compliance is not demonstrated by each annual test, the Department retains the right to reinstate quarterly testing. The variance does not apply to any other new or existing state or federal rule which may require more frequent mercury testing. [Rule 62-296.416(3)(a)3., F.A.C.; and, Order Granting Variance dated August 25, 1997.]  
*{Permitting note: 40 CFR 60, Subpart Cb requires annual Hg testing.}*
- A.34. RDF Analysis.** During compliance stack tests, the RDF shall be analyzed by at least two separate labs, approved by the Department, using split samples for the Btu and moisture contents. [PSD-FL-108A, specific condition 12.]

**Recordkeeping and Reporting Requirements**

**A.35. Reporting Schedule.** The following reports shall be submitted to the Compliance Authority:

<b>Report</b>	<b>Reporting Deadlines</b>	<b>Related Conditions</b>
Excess Emissions from Malfunctions, if requested by the Compliance Authority	Every 3 months (quarter)	<b>A.36.</b>
NSPS Excess Emissions and Monitoring System Performance	Every 6 months (semi-annual), except when more frequent reporting is specifically required	<b>A.46.</b>
EG Cb (Eb) Annual Report	Every 6 months (semi-annual)	<b>A.44 &amp; 45.</b> Appendix Cb/Appendix Eb - 40 CFR 60.59b(g)
EG Cb (Eb) Semi-Annual Report	Every 6 months (semi-annual)	<b>A.44 &amp; 45.</b> Appendix Cb/Appendix Eb - 40 CFR 60.59b(h)

[Rule 62-210.700(6), F.A.C.; 40 CFR 60, Subparts A, Cb & Eb.]

**A.36. Excess Emissions from Malfunctions.** In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Compliance Authority in accordance with Rule 62-4.130, F.A.C. A full

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### Subsection A. Emissions Units 001, 002 & 019

written report on the malfunctions shall be submitted in a quarterly report, if requested by the Compliance Authority. [Rule 62-210.700(6), F.A.C.]

**A.37. Other Reporting Requirements.** See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440, F.A.C.]

**A.38. Records of Non-MSW.** The facility owner or operator shall prepare and maintain records concerning the description and quantities of all segregated loads of non-MSW material which are received and used as fuel at the facility, and subject to a percentage weight limitation (see Specific Conditions **A.5.e.** and **A.5.f.**). The following records shall be prepared and maintained to demonstrate compliance with the segregated non-MSW percentage limitations:

- a. *Segregated Loads of non-MSW Materials.* Each segregated load of non-MSW materials, that is subject to the percentage weight limitations (see Specific Conditions **A.5.e.** and **A.5.f.**), which is received for processing shall be documented as to the description and weight of the waste. The weight of all waste materials received for processing shall be measured using the facility truck scale and recorded.
- b. *Waste Tires.* Each day the total weight of segregated tires received shall be computed, and the daily total shall be added to the sum of the daily totals from the previous days in the current calendar month. At the end of each calendar month, the resultant monthly total weight of tires shall be divided by the total weight of all waste materials received in the same calendar month, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 3% limitation.
- c. *Non-MSW Material.* Each day the total weight of segregated non-MSW materials received that are subject to the 5% restriction shall be computed, and the daily total shall be added to the sum of the daily totals from the previous days in the current calendar month. At the end of each calendar month, the resultant monthly total weight of segregated non-MSW materials subject to the 5% restriction shall be divided by the total weight of all waste materials received in the same calendar month, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 5% limitation.

[Rules 62-4.070(1), (3), 62-213.410 & 62-213.440, F.A.C.]

**A.39. Daily Waste Logs Required.** The permittee shall maintain a daily log of the municipal solid waste received. Such a log must record, at a minimum, the amount of waste, the time, and the type of waste received. [PSD-FL-108A, specific condition 18. and Rule 62-213.440, F.A.C.]

**A.40. Reporting and Recordkeeping.** The reporting and recordkeeping requirements applicable to each municipal waste combustor unit subject to Rule 62-204.800(9)(b), F.A.C., shall be the same as set forth in 40 CFR 60.59b, except for the siting requirements under 40 CFR 60.59b(a), (b)(5) and (d)(11). See Appendix 40 CFR 60, Subpart Eb. [Rule 62-204.800(9)(b)7.b, F.A.C.]

#### **Operator Practices, Training and Certification**

**A.41. Operating Practices.** The owner or operator shall comply with the operating practices as set forth in 40 CFR 60.53b(b) and (c). [Rule 62-204.800(9)(b)4., F.A.C.; and, 40 CFR 60.34b & 40 CFR 60.53b.]

**A.42. Operator Training and Certification.** The owner or operator shall comply with the operator training and certification requirements of 40 CFR 60.54b. Compliance with these requirements shall be conducted according to the schedule specified in 40 CFR 60.39b(c)(4). [Rule 62-204.800(9)(b)5., F.A.C.; and, 40 CFR 60.35b & 40 CFR 60.54b.]

#### **EG 40 CFR 60, Subpart Cb Requirements**

**A.43. EG Requirements - General Applicability and Definitions.** These emissions units shall comply with all applicable requirements of 40 CFR 60, Emission Guidelines and Compliance Times which have been adopted by reference in Rule 62-204.800(9), F.A.C., except that the term "Administrator," when used in any provision

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of 40 CFR 60 that is delegated to the Department by the U.S. Environmental Protection Agency, shall mean the Secretary or the Secretary's designee. [Rule 62-204.800(9)(a), F.A.C.]

- A.44. EG Requirements - Subpart Cb.** These emissions units shall comply with all applicable requirements of 40 CFR 60, Subpart Cb, Emissions Guidelines (EG) and Compliance Times for Large Municipal Waste Combustors, which have been adopted and incorporated by reference in Rule 62-204.800(9), F.A.C. These emissions units shall comply with Appendix 40 CFR 60 Subpart Cb included with this permit. [Rule 62-204.800(9)(b), F.A.C.]

#### **NSPS 40 CFR 60, Subpart A & Eb Requirements**

*{Permitting notes: The EG 40 CFR 60, Subpart Cb, cross references conditions (applicable requirements) that are contained in the NSPS 40 CFR 60, Subparts A and Eb.}*

- A.45. NSPS Requirements - Subpart Eb.** Except as otherwise provided in this permit, these emissions units shall comply with all applicable provisions of 40 CFR 60, Subpart Eb, Large Municipal Waste Combustors, adopted and incorporated by reference in Rule 62-204.800(8)(b), F.A.C.; except that the Secretary is not the Administrator for purposes of the authorities cited at 40 CFR 60.50b(n). These emissions units shall comply with all applicable provisions of Appendix 40 CFR 60 Subpart Eb included with this permit. [Rule 62-204.800(8)(b)7., F.A.C.]
- A.46. NSPS Requirements - Subpart A.** This emissions unit shall comply with all applicable requirements of 40 CFR 60, Subpart A, General Provisions, including:  
40 CFR 60.7, Notification and Recordkeeping  
40 CFR 60.8, Performance Tests  
40 CFR 60.11, Compliance with Standards and Maintenance Requirements  
40 CFR 60.12, Circumvention  
40 CFR 60.13, Monitoring Requirements  
40 CFR 60.19, General Notification and Reporting Requirements,  
which have been adopted by reference in Rule 62-204.800(8)(d), F.A.C.; except that the Secretary is not the Administrator for purposes of 40 CFR 60.4, 40 CFR 60.8(b)(2) and (3), 40 CFR 60.11(e)(7) and (8), 40 CFR 60.13(g), (i) and (j)(2), and 40 CFR 60.16. This emissions unit shall comply with all applicable provisions of Appendix 40 CFR 60 Subpart A included with this permit. [Rule 62-204.800(8)(d), F.A.C.]

#### **Other Requirements**

- A.47. Acid Rain Part Application.** For any unit which is a solid waste incinerator, burning less than 20 percent fossil fuel as described in 40 CFR 72.6(b)(7), adopted and incorporated by reference at Rule 62-204.800, F.A.C., the designated representative of the source containing the unit shall submit a complete Acid Rain Part application governing such unit to the Department before March 1<sup>st</sup> of the year following the three calendar year period in which the incinerator consumed 20 percent or more fossil fuel on a British thermal unit (BTU) basis. [Rule 62-214.320(1), F.A.C.]

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection B. Emissions Units 004 & 008

The specific conditions in this section apply to the following emissions units:

E.U. ID No.	Brief Description
004	Class III Landfill and Flare (1,800 scfm, manufactured by LFG Specialties, model number PCF820I8)
008	Class I Landfill and Flare (3,500 scfm, manufactured by Shaw LFG Specialties, model number CF1238I10)

The facility currently has two contiguous landfills, a Class I landfill and a Class III landfill, each with its own gas collection system and flare.

Both landfills have a design capacity greater than 2.5 million megagrams (Mg) by mass or 2.5 million cubic meters by volume. The design capacity of the Class I landfill is 33,212,516 Mg by mass and the Class III landfill is 5,723,708 Mg by mass. The landfills commenced construction in August 1988. A minor modification was requested and approved in 1994, expanding the landfills and changing the slopes. The Class I landfill started receiving waste in August 1989 and the Class III landfill started receiving waste in April 1990. The yearly waste acceptance at the Class I and Class III landfills in fiscal year (FY) 2004 was 643,501 and 203,470 Mg/yr, respectively. The Class I landfill currently accepts both municipal solid waste and ash from the resource recovery facility. The Class III landfill accepts predominately construction and demolition (C&D) debris. The Class I landfill received asbestos from 1989-1993. In 1993, asbestos disposal was transferred to the Class III landfill, which continues to receive the material.

Non-methane organic compound (NMOC) emissions from each landfill were calculated to be greater than 50 Mg per year, therefore, gas collection and control systems were required. Collection and control of landfill gas emissions began in February 1996 for both landfills.

The facility has two flares with one located at each landfill. The flares are used to control emissions from the landfills. The gas flow rates from the Class I and Class III landfill flares are 1,839.6 million ft<sup>3</sup>/year and 946.08 million ft<sup>3</sup>/year, respectively. Each flare is rated based on a maximum heat content of 550 Btu/scfm. The Class I landfill flare, a 3,500 scfm flare (Emissions Unit ID No. 008) was manufactured by Shaw LFG Specialties, model number CF1238I10 and began operations on May 15, 2008. The Class III landfill flare, a 1,800 scfm flare (Emissions Unit ID No. 004) was manufactured by LFG Specialties, model number PCF820I8 and began operations in 1999.

The landfills are collocated with a major source of HAP; however, individually they are not major sources of HAP. The landfills do not contain bioreactors.

The Class III landfill is expected to close by 2016 and the Class I landfill between 2023 and 2026.

*{Permitting note(s): These emissions units are regulated under Rule 62-210.300, F.A.C., Permits Required; 40 CFR 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills adopted by reference in Rule 62-204.800(8)(b), F.A.C.; 40 CFR 63, Subpart AAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills adopted by reference in Rule 62-204.800(11)(b)59., F.A.C.; and, 40 CFR 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Asbestos adopted by reference in Rule 62-204.800(10)(b), F.A.C. The flares are regulated under the NSPS 40 CFR 60, Subpart A, General Provisions, specifically at 40 CFR 60.18(b), adopted by reference in Rule 62-204.800(8)(d), F.A.C.}*

#### **Essential Potential to Emit (PTE) Parameters**

- B.1. Hours of Operation.** These emissions units may operate continuously (8,760 hours/year). [Rule 62-210.200 (Definitions - Potential to Emit (PTE), F.A.C. and Permit No. 0990234-002-AC/PSD-FL-108D.]
- B.2. Flares - Landfill Gas Flow Rate.** The owner or operator shall not allow more than 3,500 scfm of landfill gas to be directed to the Class I flare and 1,800 scfm of landfill gas to be directed to the Class III flare. [Rule 62-4.070(3), F.A.C., and Permit No. 0990234-002-AC/PSD FL-108D, specific condition 3.]

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## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

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### Subsection B. Emissions Units 004 & 008

#### Landfills - Collection and Control System Design Plan

**B.3.** Landfills - Collection and Control System Design Plan. As an amendment to the gas collection and control plan, the owner requested and received approval from the Department for alternative provisions to inactivate gas wells. The owner or operator shall inactivate gas wells in accordance with the plan approved by the Department. [Rule 62-204.800(8)(b)75., F.A.C.; 40 CFR 60.752(b)(2)(i) & 40 CFR 60.753(b); Class I and Class III Landfill Gas Well Inactivation Plan received September 19, 2005; and, DEP approval dated December 13, 2005.]

#### Landfills - Collection System Temperature, Oxygen and Nitrogen Requirements

**B.4.** Landfills - Collection System Temperature, Oxygen and Nitrogen Requirements. The permittee requested and received approval from the Department to establish a higher landfill gas temperature of 82.2° C for the interior wellhead in the gas collection system. The owner or operator shall operate each interior wellhead in the collection system with a landfill gas temperature less than 82.2° C. [Rule 62-204.800(8)(b)75., F.A.C.; 40 CFR 60.753(c); and, DEP approval dated October 25, 2005.]

#### Landfills - Surface Methane Requirements

**B.5.** Landfills - Surface Methane Requirements. The permittee requested and received approval from the USEPA to reduce the frequency of surface monitoring of methane gas emissions. The frequency of surface monitoring of methane gas emissions shall be annual for the Class III Landfill, provided that the methane concentration level remains below 250 parts per million (ppm). If the methane concentration equals or exceeds 250 ppm, then the surface monitoring shall revert back to a quarterly monitoring frequency. If no readings of 250 ppm or greater are detected in three consecutive subsequent quarterly samples, the frequency shall again become annual. Note that although quarterly monitoring shall be required if the methane concentration equals or exceeds 250 ppm, corrective action measures, as required by 40 CFR 60.755(c)(4), shall only be required when the concentration level equals or exceeds 500 ppm or more above background at any location. [Rule 62-204.800(7)(b), F.A.C.; 40 CFR 60.755(c)(1); USEPA approval dated June 7, 2002; and, Permit No. 0990234-005-AC/PSD-FL-108E, specific condition 2.]

#### Flares - General Control Device Requirements

**B.6.** Flares - Operation. The flares shall be operated with a flame present at all times, as determined by the methods specified in 40 CFR 60.18(f). [Rule 62-204.800(8)(d), F.A.C.; and, 40 CFR 60.18(c)(2)]

**B.7.** Flares - Exit Velocity. The flares shall be operated with an exit velocity, in accordance with 40 CFR 60.18(c)(4) and (5), as determined by the methods specified in 40 CFR 60.18(f)(4) and (f)(6). [Rule 62-204.800(8)(d), F.A.C.; and, 40 CFR 60.18(c)(4) & (5)]

**B.8.** Flares - Actual Exit Velocity. The owner or operator shall annually determine the actual exit velocity of each flare. [Permit No. 0990234-002-AC/PSD FL-108D, specific condition 5.]

**B.9.** Flares - Operation. Flares used to comply with provisions of 40 CFR 60, Subpart A shall be operated at all times when emissions may be vented to them. [Rule 62-204.800(8)(d), F.A.C.; and, 40 CFR 60.18(e)]

#### Emission Limitations and Standards

**B.10.** Flares - Visible Emissions. The flares shall be operated with no visible emissions (VE), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. [Rule 62-204.800(8)(d), F.A.C.; and, 40 CFR 60.18(c)(1).]

#### Monitoring Requirements

*{Permitting note: TABLE L-1. SUMMARY OF MONITORING REQUIREMENTS FOR MSW LANDFILLS under 40 CFR 60, Subpart WWW and 40 CFR 63, Subpart AAAA, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}*

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection B. Emissions Units 004 & 008**

- B.11. Flares - Landfill Gas Flow Rate.** Total landfill gas flow to the flares shall be continuously measured and recorded. [Rules 62-4.160(2) & 62-4.070(3), F.A.C.; and, Permit No. 0990234-012-AC, specific condition 2.]
- B.12. Flares - Landfill Gas Flow Rate.** The actual flow rate shall be determined for each flare on a monthly average basis by dividing the measured flow by the hours that each flare was operated each month. Compliance with this limitation shall be by measuring landfill gas flows to each flare and recording flows with a totalizing meter. Records of the totalizing meter values shall be recorded in an operators log monthly, or whenever the meter is reset for any purpose, whichever is more frequent. The owner or operator shall maintain a strip chart recorder to record the flow rate to each flare as a backup device in the event that the totalizer meter is not functioning; the strip chart recorder shall also be used in conjunction with an operators log to document the hours each month that each flare was operated. [Rule 62-4.070(3), F.A.C., and Permit No. 0990234-002-AC/PSD FL-108D, specific condition 3.]
- B.13. Sampling & Analysis of Sulfur Content of Landfill Gas.** The sulfur content of each landfill’s gas shall be sampled annually, analyzed and the results provided to the compliance authority with a copy to the Bureau of Air Regulation. The sulfur content of each landfill’s gas shall be analyzed at the inlet to the flare. Based on the sampling results and Rule 62-297.310(7)(b), F.A.C., the Department may request additional gas sampling and analyses. [Rules 62-4.070(3) and 62-297.310, F.A.C.; Permit No. 0990234-012-AC, specific condition 7.; and, Permit No. 0990234-002-AC/PSD FL-108D, specific condition 5.]
- B.14. Startup, Shutdown and Malfunction Plan under NESHAP 40 CFR 63, Subpart AAAA.** The owner or operator shall follow the written startup, shutdown and malfunction plan (SSM Plan). A copy of the SSM Plan must be maintained on site. [Rule 62-204.800(11)(d)1., F.A.C. and 40 CFR 63.1960.]

**Test Methods and Procedures**

- B.15. Flares - Test Methods.** Required tests shall be performed in accordance with the following reference methods:

Method(s)	Description of Method(s) and Comment(s)
ASTM Method D1072-90, or later method	Sulfur Content Analysis of Landfill Gas
ASTM D1945-03 <sup>1</sup>	Alternative Method of Determining Net Heating Value of Landfill Gas
In-place Calibrated Flow Meter <sup>1</sup>	Determining Flare Gas Exit Velocity
EPA Method 22	Visual Determination of Smoke Emissions from Flares

The above methods are described in Chapter 62-297, F.A.C. and/or 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Chapter 62-297, F.A.C. & Rule 62-204.800(9)(b)7., F.A.C.; Permit No. 0990234-002-AC/PSD FL-108D, specific condition 5.; and, <sup>1</sup> USEPA approval dated August 10, 2005.]

- B.16. Common Testing Requirements.** Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]
- B.17. Annual Compliance Test.** During each federal fiscal year (October 1<sup>st</sup> to September 30<sup>th</sup>), the flares shall be tested to demonstrate compliance with the emission limitations for VE. [Rule 62-297.310(7), F.A.C.]
- B.18. Flares - Determining Net Heating Value of Landfill Gas.** The owner or operator requested and received approval from USEPA for an alternative method of determining the net heating value of the gas being combusted in the flares. ASTM D1945-03 shall be used in place of EPA Method 18. A minimum collection of three (3)-thirty (30) minute samples is required. The requirement to test for hydrogen with ASTM D1946

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection B. Emissions Units 004 & 008**

is waived due to the low levels of hydrogen in the landfill gas. [Rule 62-204.800(8)(d), F.A.C.; 40 CFR 60.18(f)(3); and, USEPA approval dated August 10, 2005.]

- B.19. Flares - Determining Flare Gas Exit Velocity.** The owner or operator requested and received approval from USEPA for an alternative method of determining the flare gas exit velocity. The in-place calibrated flow meter shall be used in place of EPA Methods 2, 2A, 2C, or 2D. [Rule 62-204.800(8)(d), F.A.C.; 40 CFR 60.18(f)(4); and, USEPA approval dated August 10, 2005.]
- B.20. Flares - Visible Emission Test Method.** EPA Method 22 shall be used to determine the compliance with the visible emission limit for the flares. The observation period is 2 hours and shall be used according to EPA Method 22. [Rule 62-204.800(8)(d), F.A.C.; and, 40 CFR 60.18(f)(1).]
- B.21. Flares - Sulfur Content of Landfill Gas.** The owner or operator shall annually analyze the sulfur content of the landfill gas directed to each flare using ASTM Method D1072-90, or later method. [Permit No. 0990234-002-AC/PSD FL-108D, specific condition 5.]

**Recordkeeping and Reporting Requirements**

*{Permitting note: TABLE L-2. SUMMARY OF RECORDKEEPING REQUIREMENTS FOR MSW LANDFILLS under 40 CFR 60, Subpart WWW and 40 CFR 63, Subpart AAAA, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}*

*{Permitting note: TABLE L-3. SUMMARY OF COMPLIANCE REPORTING REQUIREMENTS FOR MSW LANDFILLS under 40 CFR 60, Subpart WWW and 40 CFR 63, Subpart AAAA, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}*

- B.22. Reporting Schedule.** The following reports shall be submitted to the Compliance Authority:

<b>Report</b>	<b>Reporting Deadline</b>	<b>Related Condition</b>
Semi-Annual Compliance Reports	Every 6 months, due March 1 <sup>st</sup> and September 1 <sup>st</sup>	<b>B.24.</b>

[Rule 62-213.440, F.A.C.]

- B.23. Flares - Reporting Requirements.** The owner or operator shall annually report the actual exit velocity of each flare and the sulfur content of the landfill gas directed to each flare. The actual exit velocity shall be reported to the Department as an attachment to the facility’s annual operating report (AOR). The sulfur content along with SO<sub>2</sub> emissions in tons per year (TPY) for each flare shall also be included with the AOR. [Permit No. 0990234-002-AC/PSD FL-108D, specific condition 5.]
- B.24. Landfills - Semi-Annual Compliance Reports under NESHAP 40 CFR 63, Subpart AAAA.** The owner or operator shall submit semi-annual compliance reports. The semi-annual compliance reports shall be due March 1<sup>st</sup> and September 1<sup>st</sup>. [Rule 62-204.800(11)(d)1., F.A.C.; 40 CFR 63.1980(a); and, Applicant’s Request.]
- B.25. Other Reporting Requirements.** See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440, F.A.C.]

**NSPS 40 CFR 60, Subpart A & WWW Requirements**

- B.26. NSPS Requirements - Subpart WWW.** Except as otherwise provided in this permit, these emissions units shall comply with all applicable provisions of 40 CFR 60, Subpart WWW, Municipal Solid Waste Landfills, adopted by reference in Rule 62-204.800(8)(b), F.A.C.; except that the Secretary is not the Administrator for purposes of 40 CFR 60.754(a)(5). These emissions units shall comply with all applicable provisions of **Appendix 40 CFR 60 Subpart WWW** included with this permit. [Rule 62-204.800(8)(b)75., F.A.C.]
- B.27. NSPS Requirements - Subpart A.** These emissions units shall comply with all applicable requirements of 40 CFR 60, Subpart A, General Provisions, including:  
40 CFR 60.7, Notification and Recordkeeping

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection B. Emissions Units 004 & 008

40 CFR 60.8, Performance Tests

40 CFR 60.11, Compliance with Standards and Maintenance Requirements

40 CFR 60.12, Circumvention

40 CFR 60.13, Monitoring Requirements

40 CFR 60.19, General Notification and Reporting Requirements,

which have been adopted by reference in Rule 62-204.800(8)(d), F.A.C.; except that the Secretary is not the Administrator for purposes of 40 CFR 60.4, 40 CFR 60.8(b)(2) and (3), 40 CFR 60.11(e)(7) and (8), 40 CFR 60.13(g), (i) and (j)(2), and 40 CFR 60.16. These emissions units shall comply with all applicable provisions of **Appendix 40 CFR 60 Subpart A** included with this permit. [Rule 62-204.800(8)(d), F.A.C.]

#### **NESHAP 40 CFR 61, Subpart A & M - Asbestos Disposal Site Standards**

**B.28.** NESHAP 40 CFR 61 Requirements - Subpart M [Set A]. The asbestos waste disposal sites shall comply with all applicable requirements of 40 CFR 61, Subpart M, National Emission Standard for Asbestos, which have been adopted by reference in Rule 62-204.800(10)(b), F.A.C.; except that the Secretary is not the Administrator for the purposes of 40 CFR 61.149(c)(2), 40 CFR 61.150(a)(4), 40 CFR 61.151(c), 40 CFR 61.152(b)(3), 40 CFR 61.154(d), and 40 CFR 61.155(a). These emissions units shall comply with all applicable provisions of **Appendix 40 CFR 61, Subpart M “Set A,”** included with this permit. [Rule 62-204.800(10)(b)8., F.A.C.]

**B.29.** NESHAP 40 CFR 61 Requirements - Subpart A. The asbestos waste disposal sites shall comply with all applicable requirements of 40 CFR 61, Subpart A, General Provisions, which have been adopted by reference in Rule 62-204.800(10)(d), F.A.C.; except for 40 CFR 61.08 and except that the Secretary is not the Administrator for the purposes of 40 CFR 61.04, 40 CFR 61.11, and 40 CFR 61.18. In lieu of the process set forth in 40 CFR 61.08, the Department will follow the permit processing procedures of Rule 62-4.055, F.A.C. The asbestos waste disposal sites shall comply with all applicable provisions of **Appendix 40 CFR 61 Subpart A - General Provisions** included with this permit. [Rule 62-204.800(10)(d), F.A.C.]

#### **NESHAP (MACT) 40 CFR 63, Subpart A & AAAA Requirements**

*{Permitting note: Most of the requirements of NESHAP 40 CFR 63, Subpart AAAA cross references conditions (applicable requirements) that are contained in NSPS 40 CFR 60, Subpart WWW. However, NESHAP 40 CFR 63, Subpart AAAA does include several additional requirements, most importantly the requirement to develop and implement a written startup, shutdown and malfunction plan (SSM Plan) (see 40 CFR 63.1960 in **Appendix 40 CFR 63 Subpart AAAA**, and 40 CFR 63.6(e)(3) in **Appendix 40 CFR 63 Subpart A**), and the requirement for submittal of a semi-annual compliance report (see 40 CFR 60.757(f) in **Appendix 40 CFR 60 Subpart WWW** and 40 CFR 63.1980 in **Appendix 40 CFR 63 Subpart AAAA**.)}*

**B.30.** 40 CFR 63 Requirements - Subpart A. These emissions units shall comply with all applicable requirements of 40 CFR 63, Subpart A, General Provisions, which have been adopted by reference in Rule 62-204.800(11)(d)1., F.A.C., except that the Secretary is not the Administrator for purposes of 40 CFR 63.5(e), 40 CFR 63.5(f), 40 CFR 63.6(g), 40 CFR 63.6(h)(9), 40 CFR 63.6(j), 40 CFR 63.13, and 40 CFR 63.14. These emissions units shall comply with **Appendix 40 CFR 63 Subpart A** included with this permit. [Rule 62-204.800(11)(d)1., F.A.C.]

**B.31.** 40 CFR 63 Requirements - Subpart AAAA. These emissions units shall comply with all applicable requirements of 40 CFR 63, Subpart AAAA, Municipal Solid Waste Landfills, which have been adopted by reference in Rule 62-204.800(11)(b)59., F.A.C., except that the Secretary is not the Administrator for purposes of the authorities cited at 40 CFR 63.1985(c). These emissions units shall comply with **Appendix 40 CFR 63 Subpart AAAA** included with this permit. [Rule 62-204.800(11)(b)59., F.A.C.]



**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection C. Emissions Units 010, 011, 012 & 014**

The specific conditions in this section apply to the following emissions units:

E.U. ID No.	Brief Description
	Biosolids Pelletization Facility (BPF)
010	BPF Sludge Dryer Train #1
011	BPF Sludge Dryer Train #2
012	BPF Recycle Material Bin and Pellet Storage Silo for Sludge Dryer Train #1
014	BPF Recycle Material Bin and Pellet Storage Silo for Sludge Dryer Train #2

The BPF has two 337.5 wet tons per day (wtpd) {67.5 dry tpd} sludge drying trains, Dryer Train #1 and #2, and related appurtenances. The sludge dryer trains were manufactured by Baker Rullman Drum Assembly, Model No. SD-125-42. Each dryer train at the BPF combusts landfill gas generated from the nearby landfill and/or natural gas in a rotary drum dryer to dry sewage sludge and then screens the dried sludge into marketable fertilizer pellets. Each dryer has a rated capacity of 40 MMBtu/hour heat input (natural gas or landfill gas) plus an additional 2 MMBtu/ hour heat input from each regenerative thermal oxidizer (RTO) for a total rated capacity of 84 MMBtu/ hour heat input from the dryers and the RTOs.

Dry low NOx burners and acid addition in the tray/condenser scrubber are used to control NOx emissions from each dryer's exhaust. A tray/condenser scrubber and a venturi scrubber are used to control PM emissions from each dryer's exhaust. The BPF uses a regenerative thermal oxidizer (RTO) on each dryer exhaust to control VOC emissions with an efficiency of 98%. The RTO also minimizes odors. VOCs are also combusted in the dryer burners with an estimated efficiency of 98%. CO emissions are controlled by good combustion in the dryer and in the RTO.

Each dryer RTO train has its own flue within a shared single stack. The stack parameters are: height, 138 feet; diameter, 2.5 feet; exit temperature, 194 degrees F; and, actual stack gas flow rate, 15,000 acfm. The sludge dryer trains began operation on May 22, 2009.

Each biosolids dryer train also has the following: a recycle material bin and pellet storage silo, and a cooling tower. Dusty air from silo filling operations is ducted to each recycle bin baghouse. Material captured by each baghouse is returned back into the process/operation. Each recycle material bin baghouse vents through a building odor scrubber which exhausts through an approximately 0.5 feet diameter outlet at about 50 feet above grade. Emissions from the cooling towers are uncontrolled.

*{Permitting note(s): The sludge drying trains are regulated under 40 CFR 61, Subpart E, National Emission Standards for Hazardous Air Pollutants for Mercury, adopted and incorporated by reference in Rule 62-204.800(10)(b)3., F.A.C. and 40 CFR 64, Compliance Assurance Monitoring (CAM). The sludge drying trains are not regulated under 40 CFR 60, Subpart LLLL, Standards of Performance for New Stationary Sources: Sewage Sludge Incineration Units and 40 CFR 60, Subpart MMMM, Emission Guidelines for Existing Sources: Sewage Sludge Incineration Units pursuant to the specific exemptions at 40 CFR 60.4780 and 40 CFR 60.5065. Some of these emissions units are regulated under Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD) [PSD-FL-108F, G & I and, Rule 62-212.400(6), F.A.C., Best Available Control Technology (BACT).}*

**Essential Potential to Emit (PTE) Parameters**

**C.1. Hours of Operation.** These emissions units may operate continuously (8,760 hours/year). [Rule 62-210.200 (Definitions - Potential to Emit (PTE), F.A.C. and Permit No. 0990234-006-AC/PSD-FL-108F.]

**C.2. Permitted Capacity.** The maximum process rate for each dryer train is 337.5 wet tons of sludge per day (wtpd, at 20% solids) or 67.5 dry tpd. The maximum process rate for the Biosolids Pelletization Facility (BPF) is 675 wet tons of sludge per day (wtpd, at 20% solids) or 135 dry tpd. The maximum heat input rate for each dryer and RTO are as follows:

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection C. Emissions Units 010, 011, 012 & 014**

<b>E.U. ID No.</b>	<b>Brief Description</b>	<b>Max. Heat Input (Natural or Landfill Gas)</b>
010	BPF Sludge Dryer Train #1	42 MMBtu/hour
011	BPF Sludge Dryer Train #2	42 MMBtu/hour

[Rules 62-4.160(2) & 62-210 (PTE), F.A.C. and Permit Nos. 0990234-006-AC/PSD-FL-108F & 0990234-019-AC/PSD-FL-108I.]

**C.3. Methods of Operation - Fuels.** The dryers may be fired with natural gas and/or landfill gas. [Rules 62-4.160(2) & 62-210.200 (PTE), F.A.C. and Permit Nos. 0990234-006-AC/PSD-FL-108F & 0990234-019-AC/PSD-FL-108I.]

**C.4. Emissions Unit Operating Rate Limitation After Testing.** See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

**Monitoring of Operations**

**C.5. Sludge Process Rate.** The owner or operator shall monitor and record daily the sludge process rate for each dryer train. [Rule 62-4.070(1) & (3), F.A.C.; and, Permit No. 0990234-006-AC/PSD-FL-108F.]

**Operation and Maintenance of Air Pollution Control Technologies**

**C.6. Operation and Maintenance of Air Pollution Control Technologies.** The owner or operator shall operate and maintain the selected air pollution control technologies, e.g., dry low NOx burners, exhaust gas recirculation system, tray scrubber/condenser scrubber, venturi scrubbers and RTOs. [BACT Determination and Permit No. 0990234-006-AC/PSD-FL-108F.]

**C.7. Operation and Maintenance of Fabric Filters.** The owner or operator shall operate and maintain fabric filters on each material recycle bin exhaust to control PM emissions from the material recycle bin and the pellet storage silo. [BACT Determination and Permit No. 0990234-006-AC/PSD-FL-108F.]

**C.8. Operation and Maintenance Manuals.** The owner or operator shall follow the manufacturers' Operation and Maintenance Manuals for the selected air pollution control technologies, e.g., dry low NOx burners, exhaust gas recirculation system, tray scrubber/condenser scrubber, venturi scrubber, RTOs and fabric filters. [BACT Determination and Permit No. 0990234-006-AC/PSD-FL-108F.]

**Emission Limitations and Standards**

*{Permitting note: Table 1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}*

Unless otherwise specified, the averaging times for Specific Conditions **C.9. - C.17.** are based on the specified averaging time of the applicable test method.

**C.9. Nitrogen Oxides.** NOx emissions from each sludge dryer RTO train shall not exceed 5.60 lbs/hour and 24.55 tons/year. [BACT Determination and Table AP-1 from Permit No. 0990234-006-AC/PSD-FL-108F.]

**C.10. Particulate Matter.** PM/PM<sub>10</sub> emissions from each sludge dryer RTO train shall not exceed 2.42 lbs/hour and 10.6 tons/year. [BACT Determination and Table AP-1 from Permit No. 0990234-006-AC/PSD-FL-108F.]

**C.11. Visible Emission.** VE from each sludge dryer RTO train shall not exceed 5% opacity, except 20% opacity is allowed for up to 3 minutes in 1 hour. [BACT Determination and Table AP-1 from Permit No. 0990234-006-AC/PSD-FL-108F.]

**C.12. Particulate Matter.** PM/PM<sub>10</sub> emissions from each recycle material bin and pellet storage silo baghouse shall not exceed 0.010 gr/dscf. [BACT Determination and Table AP-1 from Permit No. 0990234-006-AC/PSD-FL-108F.]

**C.13. Visible Emission.** VE from each recycle material bin and pellet storage silo baghouse shall not exceed 5% opacity. [BACT Determination and Table AP-1 from Permit No. 0990234-006-AC/PSD-FL-108F.]

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection C. Emissions Units 010, 011, 012 & 014

- C.14. Sulfur Dioxide.** SO<sub>2</sub> emissions from each sludge dryer RTO train shall not exceed 4.45 lbs/hour and 19.5 tons/year. [Rules 62-212.400(12) (Source Obligation, escape PSD), 62-4.070(1), & (3), F.A.C., and Table AP-1 from Permit No. 0990234-006-AC/PSD-FL-108F.]
- C.15. Carbon Monoxide.** CO emissions from each sludge dryer RTO train shall not exceed 3.37 lbs/hour and 14.75 tons/year. [Rules 62-212.400(12) (Source Obligation, escape PSD), 62-4.070(1), & (3), F.A.C., and Table AP-1 from Permit No. 0990234-006-AC/PSD-FL-108F.]
- C.16. Volatile Organic Compound.** VOC emissions from each sludge dryer RTO train shall not exceed 1 lbs/hour and 4.4 tons/year. [Rules 62-212.400(12) (Source Obligation, escape PSD), 62-4.070(1), & (3), F.A.C., and Table AP-1 from Permit No. 0990234-006-AC/PSD-FL-108F.]
- C.17. Mercury.** Hg emissions from each sludge dryer RTO train shall not exceed 2.2 E-02 lb/24-hour period. {The Hg emissions standard under the NESHAP is 3.2 kg (7.1 lb)/24-hour period. The applicant proposed a limit which is much lower than the NESHAP standard.} [Rules 62-212.400(12) (Source Obligation, escape PSD), 62-4.070(1), & (3), F.A.C., and Table AP-1 from Permit No. 0990234-006-AC/PSD-FL-108F.]
- C.18. Unconfined Particulate Matter Emissions at BPF.** Pursuant to Rules 62-296.320(4)(c)1., 3. and 4., F.A.C., reasonable precautions to prevent emissions of unconfined particulate matter at the BPF include the following requirements consistent with current practices by the Solid Waste Authority:
- Pave all parking lots and permanent drives;
  - Street sweep paved areas on a regular basis; and,
  - Use a water truck to spray water on unpaved roads and active unpaved areas.
- [Rule 62-296.320(4)(c)2., F.A.C. and Permit No. 0990234-006-AC/PSD-FL-108F.]

#### **Excess Emissions**

Rule 62-210.700 (Excess Emissions), F.A.C., cannot vary any requirement of a NESHAP provision.

- C.19. Excess Emissions Allowed.** Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]
- C.20. Excess Emissions Prohibited.** Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]

#### **Monitoring Requirements**

- C.21. Compliance Assurance Monitoring (CAM) Requirements.** Each sludge dryer RTO train is subject to the CAM requirements contained in the attached Appendix CAM. Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation; however, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(7)(b), F.A.C. [40 CFR 64; and, Rules 62-204.800 & 62-213.440(1)(b)1.a., F.A.C.]

*{Permitting note: The excursion level specified in the approved CAM Plan was established based upon the initial PM test data (September 2009) and the manufacturer's recommendations. The excursion level shall be re-evaluated at the time of permit renewal based upon the new most recent test data and the manufacturer's recommendations.}*

#### **Test Methods and Procedures**

*{Permitting note: Table 2, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}*

- C.22. Test Methods.** Required tests shall be performed in accordance with the following reference methods:

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection C. Emissions Units 010, 011, 012 & 014**

<b>Method(s)</b>	<b>Description of Method(s) and Comment(s)</b>
EPA Methods 1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
EPA Method 5	Methods for Determining Particulate Matter (PM) Emissions
EPA Method 6C	Method for Determining Sulfur Dioxide (SO <sub>2</sub> ) Emissions
EPA Method 7 or 7E	Method for Determining Nitrogen Oxides (NO <sub>x</sub> ) Emissions
EPA Method 9	Visual Determination of the Opacity of Emissions (VE)
EPA Method 10	Method for Determining Carbon Monoxide (CO) Emissions
EPA Method 25 or 25A	Methods for Determining Volatile Organic Compound (VOC) Emissions
EPA Method 101A or EPA Method 105	Method for Determining Particulate and Gaseous Mercury (Hg) Emissions from Sewage Sludge Incinerators or Method for Determining Mercury (Hg) in Wastewater Treatment Plant Sewage Sludge  The specific testing and sampling conditions as outlined in 40 CFR 61.53 and 61.54 shall be followed as described.

The above methods are described in Chapter 62-297, F.A.C. and/or 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Chapter 62-297, F.A.C. and Permit No. 0990234-006-AC/PSD-FL-108F.]

**C.23. Annual Compliance Test.** Except as specified in Specific Condition **C.26.**, during each federal fiscal year (October 1<sup>st</sup> to September 30<sup>th</sup>), Emissions Unit ID Nos. 010 and 011 (Sludge Dryer Train #1 and #2) and 012 & 014 (Recycle Material Bins & Pellet Storage Silos for Sludge Dryer Train #1 and #2) shall be tested to demonstrate compliance with the emission limitations for VE. Compliance with the visible emissions limit for the recycle bin fabric filter exhaust is determined at the building odor control scrubber exhaust. [Rule 62-297.310(7), F.A.C. and Permit No. 0990234-006-AC/PSD-FL-108F.]

**C.24. Compliance Test Prior To Renewal.** Prior to permit renewal, Emissions Unit ID Nos. 010 and 011 (Sludge Dryer Train #1 and #2) shall be tested to demonstrate compliance with the emission limitations for NO<sub>x</sub>, PM/PM<sub>10</sub>, SO<sub>2</sub>, and Hg. [Rule 62-297.310(7)(a)3., F.A.C. and Permit No. 0990234-006-AC/PSD-FL-108F.]

**C.25. Compliance Testing - CO and VOC Emissions.** The testing frequency for CO and VOC emissions was an initial demonstration only; no subsequent testing is required for CO and VOC because the lb/hour emission rates stated in Table AP-1 were achieved in the initial test. In lieu of frequent testing for CO and VOC emissions, the owner or operator shall follow the Operation and Maintenance Manuals for the dry low NO<sub>x</sub> burners and the RTOs. [Permit No. 0990234-006-AC/PSD-FL-108F and Rule 62-297.310(7)(a)4., F.A.C.]

**C.26. Minor PM Source Testing.** The recycle material bins and pellet storage silos are minor sources of particulate matter. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, and because these sources are equipped with baghouses, the Department pursuant to the authority granted under Rule 62-297.620(4), F.A.C., hereby establishes a visible emission limitation not to exceed an opacity of 5% in lieu of a particulate matter stack test. In accordance with Rule 62-297.620(4), minor particulate matter sources equipped with baghouses with visible emissions that are greater than or equal to 5 percent opacity may result in the permittee being required to perform a stack test in accordance with approved methods to verify compliance with the gr/dscf emission limits. The visible emissions test shall be conducted by a certified observer using Method 9 and the procedures in 40 CFR. 60.11 and Rule 62-297.320, F.A.C. [Rule 62-297.620(1)-(4), F.A.C. and Permit No. 0990234-006-AC/PSD-FL-108F.]

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection C. Emissions Units 010, 011, 012 & 014**

**C.27. Common Testing Requirements.** Unless otherwise specified above, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

**Recordkeeping and Reporting Requirements**

**C.28. Reporting Schedule.** The following report shall be submitted to the Compliance Authority:

<b>Report</b>	<b>Reporting Deadline</b>	<b>Related Condition</b>
Excess Emissions from Malfunctions, if requested by the Compliance Authority	Every 3 months (quarter)	<b>C.29.</b>

[Rule 62-210.700(6), F.A.C.]

**C.29. Excess Emissions from Malfunctions.** In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Compliance Authority in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Compliance Authority. [Rule 62-210.700(6), F.A.C.]

**C.30. Other Reporting Requirements.** See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440, F.A.C.]

**NESHAP 40 CFR 61, Subparts A & E Requirements**

**C.31. NESHAP 40 CFR 61 Requirements - Subpart A.** The dryers shall comply with all applicable requirements of 40 CFR 61, Subpart A, General Provisions, which have been adopted by reference in Rule 62-204.800(10)(d), F.A.C., except for 40 CFR 61.08 and except that the Secretary is not the Administrator for the purposes of 40 CFR 61.04, 40 CFR 61.11, and 40 CFR 61.18. In lieu of the process set forth in 40 CFR 61.08, the Department will follow the permit processing procedures of Rule 62-4.055, F.A.C. The dryers shall comply with all applicable provisions of Appendix 40 CFR 61 Subpart A - General Provisions included with this permit. [Rule 62-204.800(10)(d), F.A.C.]

**C.32. NESHAP 40 CFR 61 Requirements - Subpart E.** The dryers shall comply with all applicable requirements of 40 CFR 61, Subpart E, National Emission Standards for Hazardous Air Pollutants for Mercury, which have been adopted by reference in Rule 62-204.800(10)(b)3., F.A.C., except that the term “Administrator,” when used in any provision of 40 CFR Part 61 that is delegated to the Department by the U.S. Environmental Protection Agency, shall mean the Secretary or the Secretary’s designee. The dryers shall comply with all applicable provisions of Appendix 40 CFR 61 Subpart E - NESHAP for Mercury included with this permit. [Rule 62-204.800(10)(a) & (b)3., F.A.C.]

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection D. Emissions Units 016, 017, 021, 035 - 044**

Engines in this subsection are grouped by similar engine type as regulated by EPA. Each group number is followed by a very brief explanation of the engine type as described in the EPA regulations/tables.

	<b>Group 1: “Existing” stationary CI RICE less than or equal to 500 HP</b>	<b>See Specific Conditions</b>
<b>E.U. ID No.</b>	<b>Brief Description</b>	<b>D.1. - D.11. &amp; D.71. - D.74.</b>
035	Emergency Generator - North County Resource Recovery Facility (NCRRF) (SWA of PBC ID# WTE-E2)	
036	Fire Water Pump - NCRRF (SWA of PBC ID# WTE-E1)	
037	Emergency Generator - NCRRF Scalehouse (SWA of PBC ID# WTES-E1)	
039	Emergency Generator - Landfill Scalehouse E1 (SWA of PBC ID# LFSC-E1)	
040	Emergency Generator - Landfill Scalehouse E2 (SWA of PBC ID# LFSC-E2)	
041	Emergency Generator - MIS (SWA of PBC ID# MIS-E1)	
	<b>Group 2: “Existing” stationary CI RICE greater than 500 HP</b>	<b>See Specific Conditions</b>
<b>E.U. ID No.</b>	<b>Brief Description</b>	<b>D.12. - D.13. &amp; D.71. - D.74.</b>
038	Emergency Generator - Utilities Facility (SWA of PBC ID# U-E5)	
	<b>Group 3: “Existing” stationary CI RICE greater than 500 HP , Non-Emergency</b>	<b>See Specific Conditions</b>
<b>E.U. ID No.</b>	<b>Brief Description</b>	<b>D.14. - D.38. &amp; D.71. - D.74.</b>
017	Woody Waste Facility Diesel Engine (primary engine) (SWA of PBC ID# WW)	
	<b>Group 4: “New” stationary CI RICE greater than or equal to 175 HP and less than or equal to 500 HP</b>	<b>See Specific Conditions</b>
<b>E.U. ID No.</b>	<b>Brief Description</b>	<b>D.39. - D.54. &amp; D.71. - D.74.</b>
021	Emergency Generator - Operations Building (EPA Tier 3 certified) (SWA of PBC ID# OPS-E1)	
	<b>Group 5: “New” stationary CI RICE greater than 500 HP</b>	<b>See Specific Conditions</b>
<b>E.U. ID No.</b>	<b>Brief Description</b>	<b>D.55. - D.70. &amp; D.71. - D.74.</b>
016	Emergency Generator - Biosolids Pelletization Facility (BPF) (EPA Tier 3 certified)	

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**Subsection D. Emissions Units 016, 017, 021, 035 - 044**

	(SWA of PBC ID# BPF-E1)	
042	Emergency Generator - Administration (EPA Tier 1 certified) (SWA of PBC ID# A-E1)	
043	Emergency Generator - Materials Recovery Facility (MRF) (EPA Tier 2 certified) (SWA of PBC ID# MRF-E1)	

This subsection of the permit is comprised of 12 compression ignition (CI) type engines, 11 of which are emergency generators. Air pollutant emissions from these engines are uncontrolled.

*{Permitting notes: These emissions units, engines, are regulated under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE) adopted in Rule 62-204.800(11)(b), F.A.C. The permittee identified numerous other non-road engines (portable) located at the facility; these engines are not regulated under 40 CFR 63, Subpart ZZZZ. The “new” engines must meet 40 CFR 60, Subpart IIII, NSPS for Compression Ignition Internal Combustion Engines (CI ICE).}*

Each part of this subsection includes unit-specific applicable requirements for each group of engines which were customized from the entire 40 CFR 63, Subpart ZZZZ and/or 40 CFR 60, Subpart IIII.

**The specific conditions in this part of the subsection apply to the following group of emissions units:**

<b>Group 1: “Existing” stationary CI RICE less than or equal to 500 HP</b>	
<b>E.U. ID No.</b>	<b>Brief Description</b>
035	Emergency Generator - North County Resource Recovery Facility (NCRRF) (SWA of PBC ID# WTE-E2)
036	Fire Water Pump - NCRRF (SWA of PBC ID# WTE-E1)
037	Emergency Generator - NCRRF Scalehouse (SWA of PBC ID# WTES-E1)
039	Emergency Generator - Landfill Scalehouse E1 (SWA of PBC ID# LFSC-E1)
040	Emergency Generator - Landfill Scalehouse E2 (SWA of PBC ID# LFSC-E2)
041	Emergency Generator - MIS (SWA of PBC ID# MIS-E1)

*{Permitting note: This part of the subsection addresses “existing” stationary CI RICE less than or equal to 500 horsepower (HP) that are located at a major source of HAP and that have not been modified or reconstructed after 6/12/2006. Unless the RICE is modified or reconstructed after 7/11/2005, NSPS 40 CFR 60, Subpart IIII, will not apply.}*

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection D. Emissions Units 016, 017, 021, 035 - 044**

The following table provides important details for these emissions units:

E.U. ID No.	Engine Brake HP	Date of Construction	Model Year	Primary Fuel	Type of Engine	Displacement liters/cylinder (l/c)	Manufacturer
							Model #
							Engine Serial #
035	356	1989	-	Diesel	Emergency	1.73	Caterpillar®
							3306
							85Z04092
036	273	1994	-	Diesel	Emergency	1.75	Caterpillar®
							3306D
							6AF15B
037	19	04/01/1997	-	Diesel	Emergency	0.6	Generac®
							97A00
							N/A
039	19	04/01/1997	-	Diesel	Emergency	0.6	Generac®
							97A00
							N/A
040	63	05/19/2005	-	Diesel	Emergency	0.6	Generac®
							5204150200
							5030TF270c
041	47	05/01/1997	-	Diesel	Emergency	0.6	Generac®
							97A02
							N/A

**Compliance Deadline**

**D.1. Compliance Deadline.** The permittee shall comply with the following emissions and operating limitations no later than **May 3, 2013**. [40 CFR 63.6595(a)(1)]

**Essential Potential to Emit (PTE) Parameters**

**D.2. Hours of Operation.**

- a. *Emergency Situations.* There is no time limit on the use of emergency stationary RICE in emergency situations. [40 CFR 63.6640(f)(1)]
- b. *Maintenance and Testing.* Each RICE is authorized to operate for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. [40 CFR 63.6640(f)(1)]
- c. *Non-emergency Situations.* Each RICE is authorized to operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. [40 CFR 63.6640(f)(1)]



## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection D. Emissions Units 016, 017, 021, 035 - 044

- d. *Other Situations.* Each RICE cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph, as long as the power provided by the financial arrangement is limited to emergency power. [40 CFR 63.6640(f)(1)]
- e. *Engine Startup.* During periods of startup the owner or operator must minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for the appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 CFR 63.6625(h)]

#### **Emission Limitations and Operating Requirements**

*{Permitting note: These "existing" stationary CI engines with  $\leq 500$  HP do not have specific numerical emission limitations and standards.}*

#### **D.3. Work or Management Practice Standards.**

- a. *Oil.* Change oil and filter every 500 hours of operation or annually, whichever comes first. [40 CFR 63 Table 2c(1)(a)]
- b. *Air Cleaner.* Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first. [40 CFR 63 Table 2c(1)(b)]
- c. *Hoses and Belts.* Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. [40 CFR 63 Table 2c(1)(c)]
- d. *Operation and Maintenance.* Operate and maintain the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions or develop and follow your own maintenance plan which must provide, to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution, control practice for minimizing emissions. [40 CFR 63.6625(e)]
- e. *Oil Analysis.* The owner or operator has the option of using oil analysis to extend the change requirement. The oil analysis must be performed at the same frequency specified for changing the oil. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent of water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent of water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63.6625(i)]

### SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

#### Subsection D. Emissions Units 016, 017, 021, 035 - 044

##### Monitoring of Operations

**D.4. Hour Meter.** The owner or operator must install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f)]

##### Compliance Requirements

**D.5. Continuous Compliance.** Each unit shall be in compliance with the emission limitations and operating standards in this section at all times. [40 CFR 63.6605(a)]

**D.6. Operation and Maintenance of Equipment.** At all times the owner or operator must operate and maintain, any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the compliance authority which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(b)]

##### Recordkeeping Requirements

**D.7. Notification, Performance and Compliance Records.**

- a. A copy of each notification and report that the owner or operator submitted to comply with this section, including all documentation supporting any Initial Notification or Notification of Compliance Status that the owner or operator submitted.
- b. The owner or operator must keep the records required in 40 CFR 63.6625(e) of this section to show continuous compliance with each emission limitation or operating requirement.
- c. The owner or operator must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.

[40 CFR 63.6655]

**D.8. Malfunction Records.**

- a. Records of the occurrence and duration of each malfunction of operation (i.e. process equipment) or the air pollution control and monitoring equipment.
- b. Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.6605(b) of this section including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

[40 CFR 63.6655]

**D.9. Maintenance Records.**

- a. Records of all required maintenance performed on the air pollution control and monitoring equipment.
- b. (The owner or operator must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the stationary RICE and after-treatment control device (if any) are operated and maintained according to its own maintenance plan.

[40 CFR 63.6655]

**D.10. Record Retention.**

- a. The owner or operator must keep records in a suitable and readily available form for expeditious reviews.
- b. The owner or operator must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[40 CFR 63.6660 and 40 CFR 63.10(b)(1)]

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection D. Emissions Units 016, 017, 021, 035 - 044**

**Reporting Requirements**

**D.11. Emergency Situation.** If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required of this section, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable. [40 CFR 63.6602 Table 2c, footnote 1]

**The specific conditions in this part of the subsection apply to the following group of emissions units:**

<b>Group 2: "Existing" stationary CI RICE greater than 500 HP</b>	
<b>E.U. ID No.</b>	<b>Brief Description</b>
038	Emergency Generator - Utilities Facility (SWA of PBC ID# U-E5)

*{Permitting note: This part of the subsection addresses "existing" stationary CI RICE greater than 500 HP that are located at a major source of HAP and that have not been modified or reconstructed after 12/19/2002. Unless the RICE is modified or reconstructed after 7/11/2005, NSPS 40 CFR 60, Subpart IIII, will not apply. This RICE is not used as a fire pump.}*

The following table provides important details for this emissions unit:

<b>E.U. ID No.</b>	<b>Engine Brake HP</b>	<b>Date of Construction</b>	<b>Model Year</b>	<b>Primary Fuel</b>	<b>Type of Engine</b>	<b>Displacement liters/cylinder (l/c)</b>	<b>Manufacturer</b>
							<b>Model #</b>
							<b>Engine Serial #</b>
038	3,164	5/7/2002	-	Diesel	Emergency	4.3	Caterpillar®
							3516B
							1HZ02187

**Essential Potential to Emit (PTE) Parameters**

- D.12. Hours of Operation.**
- Emergency Situations.* There is no time limit on the use of emergency stationary RICE in emergency situations. [40 CFR 63.6640(f)(2)]
  - Maintenance and Testing.* Each RICE is authorized to operate for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit for routine testing and maintenance. [40 CFR 63.6640(f)(2)]
  - Non-emergency situations.* Each RICE is authorized to operate for an additional 50 hours per year in non-emergency situations. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 CFR 63.6640(f)(2)]
  - Engine Startup.* During periods of startup the owner or operator must minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for the appropriate and safe loading of the

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection D. Emissions Units 016, 017, 021, 035 - 044**

engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 CFR 63.6625(h)]

**Emission Limitations and Operating Requirements**

*{Permitting note: This “existing” stationary CI engine with > 500 HP does not have a specific numerical emission limitations and standards.}*

**Recordkeeping Requirements**

**D.13. Record Retention.**

- a. The owner or operator must keep records in a suitable and readily available form for expeditious reviews.
- b. The owner or operator must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 CFR 63.6660 and 40 CFR 63.10(b)(1)]

**The specific conditions in this part of the subsection apply to the following group of emissions units:**

	<b>Group 3: “Existing” stationary CI RICE greater than 500 HP , Non-Emergency</b>
<b>E.U. ID No.</b>	<b>Brief Description</b>
017	Woody Waste Facility Diesel Engine (primary engine) (SWA of PBC ID# WW)

*{Permitting note: This part of the subsection addresses “existing” stationary CI RICE greater than 500 HP that are located at a major source of HAP and that have been constructed or reconstructed before 12/19/2002. This RICE is not used as a fire pump.}*

The following table provides important details for this emissions unit:

E.U. ID No.	Engine Brake HP	Date of Construction	Model Year	Primary Fuel	Type of Engine	Displacement liters/cylinder (l/c)	Manufacturer
							Model #
							Engine Serial #
017	1,180	12/10/2001	2001	Diesel	Non-Emergency	2.25	Caterpillar®
							3412
							BDT00610

**Essential Potential to Emit (PTE) Parameters**

**D.14. Compliance Deadline.** The permittee shall comply with the following emissions and operating limitations no later than **May 3, 2013**. [40 CFR 63.6595(a)(1)]

**D.15. Allowable Fuel.** The stationary RICE must use diesel fuel that meets the following requirements for non-road diesel fuel:

- a. *Sulfur Content.* The sulfur content shall not exceed 15 ppm (0.0015% by weight) for non-road diesel fuel.
- b. *Cetane and Aromatic.* The fuel must have a minimum cetane index of 40 or must have a maximum aromatic content of 35 volume percent.

[40 CFR 63.6604 and 40 CFR 80.510(b)]

**Emission Standards and Limitations**

**D.16. Hours of Operation.**

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection D. Emissions Units 016, 017, 021, 035 - 044

- a. *Normal Operation.* The stationary RICE may operate continuously (8,760 hours a year) if needed. [40 CFR 63.6640(f)(1)]
- b. *Engine Startup.* During periods of startup the owner or operator must minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 CFR 63.6625(h)]

**D.17. CO Emissions.** The owner or operator must reduce carbon monoxide (CO) emissions by 70 percent or more; or limit concentration of CO in the stationary RICE exhaust to 23 parts per million by volume, dry (ppmvd) or less at 15 percent O<sub>2</sub>. [40 CFR 63.6600(d) Table 2c]

#### **Operating Limitations**

**D.18. Operating Limitations.** The owner or operator must comply with any operating limitations approved by the Administrator. [40 CFR 63.6603; Table 2b]

#### **Compliance Requirements**

**D.19. Continuous Compliance.** Each unit shall be in compliance with the emission limitations and operating standards in this section at all times. [40 CFR 63.6605(a)]

**D.20. Operation and Maintenance of Equipment.** At all times the owner or operator must operate and maintain, any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the compliance authority which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(b)]

**D.21. Continuous Compliance - Monitoring and Data.** If the owner or operator must comply with emission and operating limitations, they must monitor and collect data according to this section.

- a. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), they must monitor continuously at all times that the stationary RICE is operating.
- b. The owner or operator may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. They must, however, use all the valid data collected during all other periods.

[40 CFR 63.6635(a)]

**D.22. Continuous Compliance.** The owner or operator must demonstrate continuous compliance by:

- a. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO to demonstrate that the required CO percent reduction is achieved or that emissions remain at or below the CO concentration limit; and,
- b. Collecting the approved operating parameter (if any) data according to 40 CFR 63.6625(b); and
- c. Reducing these data to 4-hour rolling averages; and,
- d. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

[40 CFR 63.6640(a) Table 6 10.i.]

#### **Monitoring, Installation, Collection, Operation and Maintenance Requirements**

**D.23. CEMS.** If the owner or operator elects to install a CEMS as specified in Table 5 of 40 CFR 63, Subpart ZZZZ, they must install, operate, and maintain a CEMS to monitor CO and either oxygen or carbon dioxide (CO<sub>2</sub>) at both the inlet and the outlet of the control device according to the requirements in 40 CFR 63.6625(a)(1) through (4). [40 CFR 63.6625(a)]

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection D. Emissions Units 016, 017, 021, 035 - 044

- D.24. Continuous Parameter Monitoring System (CPMS).** If the owner or operator is required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of 40 CFR 63, Subpart ZZZZ, they must install, operate, and maintain each CPMS according to the requirements in 40 CFR 63.6625(b)(1) through (8). [40 CFR 63.6625(b)]
- D.25. Crankcase Ventilation System.** If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either 40 CFR 63.6625(g)(1) or (g)(2):
- Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere. [40 CFR 63.6625(g)(1)]
  - Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals. [40 CFR 63.6625(g)(2)]
- Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. [40 CFR 63.6625(g)]
- D.26. Temperature Measurement Device.** If the owner or operator has an operating limitation that requires the use of a temperature measurement device, they must meet the requirements in 40 CFR 63.6625(k)(1) through (4). [40 CFR 63.6625(k)]

#### **Testing Requirements**

- D.27. Initial Compliance Testing.** The owner or operator has demonstrated initial compliance when:
- CO Emissions.*
    - The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and,
    - The owner or operator has installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in 40 CFR 63.6625(b); and,
    - The owner or operator has recorded the approved operating parameters (if any) during the initial performance test.[40 CFR 63.6630 Table 5]
- D.28. Testing Frequency.** The owner or operator must conduct performance tests every 8,760 hours or 3 years, whichever comes first. [40 CFR 63.6615 Table 3]
- D.29. Measurements to Determine O<sub>2</sub> and CO.**
- Measurements to Determine O<sub>2</sub>.* The owner or operator must measure the O<sub>2</sub> at the inlet and outlet of the control device using a portable CO and O<sub>2</sub> analyzer according to the ASTM D6522-00 (2005) (incorporated by reference, see 40 CFR 63.14) requirements. Measurements to determine O<sub>2</sub> must be made at the same time as the measurements for CO concentration. Methods 3A and 10 may also be used as options to ASTM-D6522-00 (2005).
  - Measurements to Determine CO.* The owner or operator must measure the CO at the inlet and the outlet of the control device using a portable CO and O<sub>2</sub> analyzer according to the ASTM D6522-00 (2005) (incorporated by reference, see 40 CFR 63.14) or Method 10 of 40 CFR appendix A requirements. The CO concentration must be at 15 percent O<sub>2</sub>, dry basis. Methods 3A and 10 may also be used as options to ASTM-D6522-00 (2005). Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03 may also be used.
- [40 CFR 63.6620 Table 4]

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## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection D. Emissions Units 016, 017, 021, 035 - 044

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#### Recordkeeping Requirements

##### **D.30. Notification, Performance and Compliance Records.**

- a. The owner or operator must keep a copy of each notification and report that the owner or operator submitted to comply with this section, including all documentation supporting any Initial Notification or Notification of Compliance Status that the owner or operator submitted.
- b. The owner or operator must keep the records required in 40 CFR 63.6625(e) of this section to show continuous compliance with each emission limitation or operating requirement.
- c. The owner or operator must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.

[40 CFR 63.6655]

##### **D.31. Malfunction Records.**

- a. The owner or operator must keep records of the occurrence and duration of each malfunction of operation (i.e. process equipment) or the air pollution control and monitoring equipment.
- b. The owner or operator must keep records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.6605(b) of this section including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

[40 CFR 63.6655]

##### **D.32. Maintenance Records.**

- a. The owner or operator must keep records of all required maintenance performed on the air pollution control and monitoring equipment.
- b. The owner or operator must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the stationary RICE and after-treatment control device (if any) are operated and maintained according to its own maintenance plan.

[40 CFR 63.6655]

##### **D.33. Performance Records.** The owner or operator must keep records of performance tests and performance evaluations as required. [40 CFR 63.6655]

##### **D.34. Record Retention.**

- a. The owner or operator must keep records in a suitable and readily available form for expeditious reviews.
- b. The owner or operator must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[40 CFR 63.6660 and 40 CFR 63.10(b)(1)]

#### Reporting Requirements

##### **D.35. Notification Requirements.** The owner or operator must submit all of the notifications in 40CFR 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified. [40 CFR 63.6645(a)]

##### **D.36. Notification of Intent to Conduct a Performance Test.** If the owner or operator is required to conduct a performance test, they must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in 40 CFR 63.7(b)(1). [40 CFR 63.6645(g)]

##### **D.37. Notification of Compliance Status.** If the owner or operator is required to conduct a performance test as specified in Tables 4 and 5 of 40 CFR 63, Subpart ZZZZ, they must submit a Notification of Compliance Status according to 40 CFR 63.9(h)(2)(ii).

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection D. Emissions Units 016, 017, 021, 035 - 044**

- a. For each compliance demonstration required in Table 5 of 40 CFR 63, Subpart ZZZZ that does not include a performance test, the owner or operator must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.
- b. For each compliance demonstration required in Table 5 of 40 CFR 63, Subpart ZZZZ that includes a performance test conducted according to the requirements in Table 3 of 40 CFR 63, Subpart ZZZZ, the owner or operator must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to 40 CFR 63.10(d)(2).

[40 CFR 63.6645(h)]

**D.38. Compliance Report.** The owner or operator must submit a Compliance Report. The Report must contain:

- a. If there are no deviations from any emission limitations or operating limitations that apply to the owner or operator, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in 40 CFR 63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or
- b. If the owner or operator had a deviation from any emission limitation or operating limitation during the reporting period, the information in 40 CFR 63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in 40 CFR 63.8(c)(7), the information in 40 CFR 63.6650(e); or
- c. If the owner or operator had a malfunction during the reporting period, the information in 40 CFR 63.6650(c)(4).

The owner or operator must submit the report semiannually according to the requirements in 40 CFR 63.6650(b).

[40 CFR 63.6650 (except 63.6650(g)) Table 7]

**The specific conditions in this part of the subsection apply to the following group of emissions units:**

<b>Group 4: "New" stationary CI RICE greater than or equal to 175 HP and less than or equal to 500 HP</b>	
<b>E.U. ID No.</b>	<b>Brief Description</b>
021	Emergency Generator - Operations Building (EPA Tier 3 certified) (SWA of PBC ID# OPS-E1)

*{Permitting note: This part of the subsection addresses "new" stationary CI RICE greater than or equal to 175 HP and less than or equal to 500 HP, with a displacement less than 10 liters per cylinder, that are located at a major source of HAP and that have been modified, reconstructed or commenced construction on or after 6/12/2006 and have a 2007 or later model year. This RICE is not used as a fire pump.}*

The following table provides important details for this emissions unit:

<b>E.U. ID No.</b>	<b>Engine Brake HP</b>	<b>Date of Construction</b>	<b>Model Year</b>	<b>Primary Fuel</b>	<b>Type of Engine</b>	<b>Displacement liters/cylinder (l/c)</b>	<b>Manufacturer</b>
							<b>Model #</b>
							<b>Engine Serial #</b>
021	250	2008	-	Diesel	Emergency	1.115	Cummings/Onan®
							DSGAB
							-



## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection D. Emissions Units 016, 017, 021, 035 - 044

#### Applicability

**D.39. Applicability.** Pursuant to 40 CFR 63.6590(c), these engines must comply with 40 CFR 63, Subpart ZZZZ by meeting the requirements of NSPS 40 CFR 60, Subpart IIII. Pursuant to 40 CFR 63.6590(c), no further requirements apply to the engine under 40 CFR 63, Subpart ZZZZ. [Rules 62-204.800(11) & (8), F.A.C.; and, 40 CFR 63.6590(c)]

#### Essential Potential to Emit (PTE) Parameters

**D.40. Allowable Fuel.** The stationary RICE must use diesel fuel that meets the following requirements for non-road diesel fuel:

- c. *Sulfur Content.* The sulfur content shall not exceed 15 ppm (0.0015% by weight) for non-road diesel fuel.
- d. *Cetane and Aromatic.* The fuel must have a minimum cetane index of 40 or must have a maximum aromatic content of 35 volume percent.

[40 CFR 60.4207(b) and 40 CFR 80.510(b)]

**D.41. Hours of Operation.**

- a. *Emergency Situations.* There is no time limit on the use of emergency stationary RICE in emergency situations. [40 CFR 60.4211(e)]
- b. *Maintenance and Testing.* Each RICE is authorized to operate for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. [40 CFR 60.4211(e)]
- c. *Other Situations.* Each RICE cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 CFR 60.4219]

#### Emission Standards and Limitations

**D.42. NMHC + NO<sub>x</sub> Emissions.** Non-methane hydrocarbons and nitrogen oxide emissions shall not exceed 4.0 g/KW-hr {equivalent to: 3.2 lbs/hour (OPS-E1)}. [40 CFR 60.4205(b)]

**D.43. CO Emissions.** Carbon monoxide emissions shall not exceed 3.5 g/KW-hr {equivalent to: 1.4 lbs/hour (OPS-E1)}. [40 CFR 60.4205(b)]

**D.44. PM Emissions.** Particulate matter emissions shall not exceed 0.2 g/KW-hr {equivalent to: 4.3 lbs/hour (OPS-E1)}. [40 CFR 60.4205(b)]

**D.45. Operation and Maintenance.** The owner or operator must operate and maintain the stationary CI internal combustion engine according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer. The owner or operator must meet the requirements of 40 CFR 89, 94 and/or 1068, as they apply. [40 CFR 60.4211(a)]

#### Monitoring of Operations

**D.46. Hour Meter.** The owner or operator must install a non-resettable hour meter if one is not already installed. [40 CFR 60.4209(a)]

#### Compliance Requirements

**D.47. Compliance Requirements.** Owner or operator must demonstrate compliance according to one of the methods below:

- e. *Certification.* Have purchased an engine certified according to 40 CFR 89 or 94, as applicable, for the same model year and maximum engine power.
- f. *Manufacturer Data.* Keep records of engine manufacturer data indicating compliance with the standards.
- g. *Vendor Data.* Keep records of control device vendor data indicating compliance with the standards.

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection D. Emissions Units 016, 017, 021, 035 - 044

- h. *Performance Test.* Conduct an initial performance test to demonstrate compliance with the emission standards according to the testing requirements in this section.
- i. *Similar Engine Tests.* Keep records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

[40 CFR 60.4211(b)]

#### **Testing Requirements**

- D.48. Performance Test.** Performance test must be conducted according to the in-use testing procedures in 40 CFR 1039, Subpart F. [40 CFR 60.4212]
- D.49. Engine Manufacturer's Recommendations and Instructions.** If the owner/operator does not install, configure, operate, and maintain the engine according to the manufacturer's recommendations and instructions, any required testing shall be completed in accordance with 40 CFR 60, Subpart III. [40 CFR 60.4212.]
- D.50. Not to exceed (NTE) Standards.** Exhaust emissions from stationary CI ICE that are complying with the emission standards must not exceed the not to exceed (NTE) numerical requirements, rounded to the same number of decimal places as the applicable standard, determined from the following equation:  $NTE = (1.25) \times (\text{Standard})$ . [40 CFR 60.4212]

#### **Recordkeeping Requirements**

- D.51. Required Records.** Owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner or operator must record the time of operation of the engine and the reason the engine was in operation during that time. [40 CFR 60.4214]
- D.52. Record Retention.**
- a. The owner or operator must keep records in a suitable and readily available form for expeditious reviews.
  - b. The owner or operator must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record.
- [40 CFR 63.6660 and 40 CFR 63.10(b)(1)]

#### **NSPS 40 CFR 60, Subpart A & III Requirements**

- D.53. NSPS Requirements - Subpart A.** These emissions units shall comply with all applicable requirements of 40 CFR 60, Subpart A, General Provisions, including:  
40 CFR 60.7, Notification and Recordkeeping  
40 CFR 60.8, Performance Tests  
40 CFR 60.11, Compliance with Standards and Maintenance Requirements  
40 CFR 60.12, Circumvention  
40 CFR 60.13, Monitoring Requirements  
40 CFR 60.19, General Notification and Reporting Requirements,  
which have been adopted by reference in Rule 62-204.800(8)(d), F.A.C.; except that the Secretary is not the Administrator for purposes of 40 CFR 60.4, 40 CFR 60.8(b)(2) and (3), 40 CFR 60.11(e)(7) and (8), 40 CFR 60.13(g), (i) and (j)(2), and 40 CFR 60.16. The applicable 40 CFR 60, Subpart A, General Provisions to which these emissions are subject to are found at 40 CFR 63.4218 and are included in **Appendix 40 CFR 60 Subpart A**. [Rule 62-204.800(8)(d), F.A.C.]
- D.54. 40 CFR 60 Requirements - Subpart III [Generally Applicable Requirements].** These emissions units shall comply with all applicable requirements of 40 CFR 60, Subpart III, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, which have been adopted by reference in Rule 62-204.800(8), F.A.C. These emissions units shall comply with **Appendix 40 CFR 60 Subpart III**

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection D. Emissions Units 016, 017, 021, 035 - 044**

“Generally Applicable Requirements,” included with this permit, which includes applicable requirements that apply in general to all engines regulated under 40 CFR 60, Subpart III. This appendix also contains useful information like definitions (see 40 CFR 60.4219) that are specific to engines regulated under 40 CFR 60 Subpart III. [Rule 62-204.800(8), F.A.C.]

**The specific conditions in this part of the subsection apply to the following group of emissions units:**

<b>Group 5: “New” stationary CI RICE greater than 500 HP</b>	
<b>E.U. ID No.</b>	<b>Brief Description</b>
016	Emergency Generator - Biosolids Pelletization Facility (BPF) (EPA Tier 3 certified) (SWA of PBC ID# BPF-E1)
042	Emergency Generator - Administration (EPA Tier 1 certified) (SWA of PBC ID# A-E1)
043	Emergency Generator - Materials Recovery Facility (MRF) (EPA Tier 2 certified) (SWA of PBC ID# MRF-E1)

*{Permitting note: This part of the subsection addresses “new” stationary CI RICE greater than 500 HP, with a displacement less than 10 liters per cylinder, that are located at a major source of HAP and that have been modified, reconstructed or commenced construction on or after 12/19/2002 and have a pre-2007 or 2007 & later model year. These RICE are not used as fire pumps.}*

The following table provides important details for these emissions units:

<b>E.U. ID No.</b>	<b>Engine Brake HP</b>	<b>Date of Construction</b>	<b>Model Year</b>	<b>Primary Fuel</b>	<b>Type of Engine</b>	<b>Displacement liters/cylinder (l/c)</b>	<b>Manufacturer</b>
							<b>Model #</b>
							<b>Engine Serial #</b>
016	550	2009	2007	Diesel	Emergency	2.33	Kohler®
							350REOZDD
							2180993
042	913	5/2/2006	2001	Diesel	Emergency	2.25	Caterpillar®
							3412
							BPG00204
043	775	2009	-	Diesel	Emergency	2.48	Cummings/Onan®
							DFEG 60 Hz
							-

**Applicability**

**D.55. Applicability.** Pursuant to 40 CFR 63.6590(c), these engines must comply with 40 CFR 63, Subpart ZZZZ by meeting the requirements of NSPS 40 CFR 60, Subpart III. Pursuant to 40 CFR 63.6590(c), no further requirements apply to the engine under 40 CFR 63, Subpart ZZZZ. [Rules 62-204.800(11) & (8), F.A.C.; and, 40 CFR 63.6590(c)]

**Essential Potential to Emit (PTE) Parameters**

### SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

#### Subsection D. Emissions Units 016, 017, 021, 035 - 044

- D.56. Allowable Fuel.** The stationary RICE must use diesel fuel that meets the following requirements for non-road diesel fuel:
- Sulfur Content.** The sulfur content shall not exceed 15 ppm (0.0015% by weight) for non-road diesel fuel.
  - Cetane and Aromatic.** The fuel must have a minimum cetane index of 40 or must have a maximum aromatic content of 35 volume percent.  
[40 CFR 60.4207(b) and 40 CFR 80.510(b)]
- D.57. Hours of Operation.**
- Emergency Situations.** There is no time limit on the use of emergency stationary RICE in emergency situations. [40 CFR 60.4211(e)]
  - Maintenance and Testing.** Each RICE is authorized to operate for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. [40 CFR 60.4211(e)]
  - Other Situations.** Each RICE cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 CFR 60.4219]

#### **Emission Standards and Limitations**

- D.58.** The following emission standards and limitations apply to E.U. ID No. 016, Emergency Generator - Biosolids Pelletization Facility (BPF) (EPA Tier 3 certified):
- NMHC + NO<sub>x</sub> Emissions.** Non-methane hydrocarbons and nitrogen oxide emissions shall not exceed 4.0 g/KW-hr {equivalent to: 3.62 lbs/hour}. [40 CFR 60.4205(b)]
  - CO Emissions.** Carbon monoxide emissions shall not exceed 3.5 g/KW-hr {equivalent to: 3.17 lbs/hour}. [40 CFR 60.4205(b)]
  - PM emissions.** Particulate matter emissions shall not exceed 0.2 g/KW-hr {equivalent to: 0.18 lbs/hour}. [40 CFR 60.4205(b)]
- D.59.** The following emission standards and limitations apply to E.U. ID No. 042, Emergency Generator - Administration (EPA Tier 1 certified):
- HC Emissions.** Hydrocarbon emissions shall not exceed 1.3 g/KW-hr or 1.0 g/HP-hr {equivalent to: 1.9 lbs/hour}. [40 CFR 60.4205(a)]
  - NO<sub>x</sub> Emissions.** Nitrogen oxide emissions shall not exceed 9.2 g/KW-hr or 6.9 g/HP-hr {equivalent to: 13.8 lbs/hour}. [40 CFR 60.4205(a)]
  - CO Emissions.** Carbon monoxide emissions shall not exceed 11.4 g/KW-hr or 8.5 g/HP-hr {equivalent to: 17.1 lbs/hour}. [40 CFR 60.4205(a)]
  - PM emissions.** Particulate matter emissions shall not exceed 0.54 g/KW-hr or 0.40 g/HP-hr {equivalent to: 0.8 lbs/hour}. [40 CFR 60.4205(a)]
- D.60.** The following emission standards and limitations apply to E.U. ID No. 043, Emergency Generator - Materials Recovery Facility (MRF) (EPA Tier 2 certified):
- NMHC + NO<sub>x</sub> Emissions.** Non-methane hydrocarbons and nitrogen oxide emissions shall not exceed 6.4 g/KW-hr {equivalent to: 7.95 lbs/hour}. [40 CFR 60.4205(b)]
  - CO Emissions.** Carbon monoxide emissions shall not exceed 3.5 g/KW-hr {equivalent to: 4.35 lbs/hour}. [40 CFR 60.4205(b)]
  - PM emissions.** Particulate matter emissions shall not exceed 0.2 g/KW-hr {equivalent to: 0.25 lbs/hour}. [40 CFR 60.4205(b)]
- D.61. Operation and Maintenance.** The owner or operator must operate and maintain the stationary CI internal combustion engine according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change

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## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection D. Emissions Units 016, 017, 021, 035 - 044

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those settings that are permitted by the manufacturer. The owner or operator must meet the requirements of 40 CFR 89, 94 and/or 1068, as they apply. [40 CFR 60.4211(a)]

#### **Monitoring of Operations**

**D.62. Hour Meter.** The owner or operator must install a non-resettable hour meter if one is not already installed. [40 CFR 60.4209(a)]

#### **Compliance Requirements**

**D.63. Compliance Requirements.** Owner or operator must demonstrate compliance according to one of the methods below:

- Certification.* Have purchased an engine certified according to 40 CFR 89 or 94, as applicable, for the same model year and maximum engine power.
- Manufacturer Data.* Keep records of engine manufacturer data indicating compliance with the standards.
- Vendor Data.* Keep records of control device vendor data indicating compliance with the standards.
- Performance Test.* Conduct an initial performance test to demonstrate compliance with the emission standards according to the testing requirements in this section.
- Similar Engine Tests.* Keep records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

[40 CFR 60.4211(b)]

#### **Testing Requirements**

**D.64. Performance Test.** Performance test must be conducted according to the in-use testing procedures in 40 CFR 1039, Subpart F. [40 CFR 60.4212]

**D.65. Engine Manufacturer's Recommendations and Instructions.** If the owner/operator does not install, configure, operate, and maintain the engine according to the manufacturer's recommendations and instructions, any required testing shall be completed in accordance with 40 CFR 60, Subpart III. [40 CFR 60.4212.]

**D.66. Not to exceed (NTE) Standards.** Exhaust emissions from stationary CI ICE that are complying with the emission standards must not exceed the not to exceed (NTE) numerical requirements, rounded to the same number of decimal places as the applicable standard, determined from the following equation:  $NTE = (1.25) \times (\text{Standard})$ . [40 CFR 60.4212]

#### **Recordkeeping Requirements**

**D.67. Required Records.** Owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner or operator must record the time of operation of the engine and the reason the engine was in operation during that time. [40 CFR 60.4214]

**D.68. Record Retention.**

- The owner or operator must keep records in a suitable and readily available form for expeditious reviews.
- The owner or operator must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[40 CFR 63.6660 and 40 CFR 63.10(b)(1)]

#### **NSPS 40 CFR 60, Subpart A & III Requirements**

**D.69. NSPS Requirements - Subpart A.** These emissions units shall comply with all applicable requirements of 40 CFR 60, Subpart A, General Provisions, including:  
40 CFR 60.7, Notification and Recordkeeping  
40 CFR 60.8, Performance Tests

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection D. Emissions Units 016, 017, 021, 035 - 044

40 CFR 60.11, Compliance with Standards and Maintenance Requirements

40 CFR 60.12, Circumvention

40 CFR 60.13, Monitoring Requirements

40 CFR 60.19, General Notification and Reporting Requirements,

which have been adopted by reference in Rule 62-204.800(8)(d), F.A.C.; except that the Secretary is not the Administrator for purposes of 40 CFR 60.4, 40 CFR 60.8(b)(2) and (3), 40 CFR 60.11(e)(7) and (8), 40 CFR 60.13(g), (i) and (j)(2), and 40 CFR 60.16. The applicable 40 CFR 60, Subpart A, General Provisions to which these emissions are subject to are found at 40 CFR 63.4218 and are included in **Appendix 40 CFR 60 Subpart A**. [Rule 62-204.800(8)(d), F.A.C.]

**D.70. 40 CFR 60 Requirements - Subpart III [Generally Applicable Requirements].** These emissions units shall comply with all applicable requirements of 40 CFR 60, Subpart III, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, which have been adopted by reference in Rule 62-204.800(8), F.A.C. These emissions units shall comply with **Appendix 40 CFR 60 Subpart III “Generally Applicable Requirements,”** included with this permit, which includes applicable requirements that apply in general to all engines regulated under 40 CFR 60, Subpart III. This appendix also contains useful information like definitions (see 40 CFR 60.4219) that are specific to engines regulated under 40 CFR 60 Subpart III. [Rule 62-204.800(8), F.A.C.]

### THE FOLLOWING SPECIFIC CONDITIONS APPLY TO ALL GROUPS OF EMISSIONS UNITS.

#### Operation and Maintenance Requirements

*{Permitting note: TABLE E-1. SUMMARY OF MAINTENANCE REQUIREMENTS FOR ENGINES, summarizes maintenance requirements under 40 CFR 63, Subpart ZZZZ for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}*

#### Test Methods and Procedures

**D.71. Common Testing Requirements.** Any tests, if required, shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

#### Recordkeeping and Reporting Requirements

**D.72. Other Reporting Requirements.** See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440, F.A.C.]

#### NESHAP 40 CFR 63, Subpart A & ZZZZ Requirements

**D.73. 40 CFR 63 Requirements - Subpart A.** These emissions units shall comply with all applicable requirements of 40 CFR 63, Subpart A, General Provisions, which have been adopted by reference in Rule 62-204.800(11)(d)1., F.A.C., except that the Secretary is not the Administrator for purposes of 40 CFR 63.5(e), 40 CFR 63.5(f), 40 CFR 63.6(g), 40 CFR 63.6(h)(9), 40 CFR 63.6(j), 40 CFR 63.13, and 40 CFR 63.14. The applicable 40 CFR 63, Subpart A, General Provisions to which these emissions are subject to are found at 40 CFR 63.6665 and are included in **Appendix 40 CFR 63 Subpart A**. [Rule 62-204.800(11)(d)1., F.A.C.]

**D.74. 40 CFR 63 Requirements - Subpart ZZZZ [Generally Applicable Requirements].** These emissions units shall comply with all applicable requirements of 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), which have been adopted by reference in Rule 62-204.800(11)(b), F.A.C. These emissions units shall comply with **Appendix 40 CFR 63 Subpart ZZZZ “Generally Applicable Requirements,”** included with this permit, which includes applicable requirements that apply in general to all engines regulated under 40 CFR 63 Subpart ZZZZ. This appendix also contains useful information like provisions that are not delegated to state or local

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

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**Subsection D. Emissions Units 016, 017, 021, 035 - 044**

agencies (see 40 CFR 63.6670) and contains definitions (see 40 CFR 63.6675) that are specific to engines regulated under 40 CFR 63 Subpart ZZZZ. [Rule 62-204.800(11)(b), F.A.C.]

## SECTION IV. APPENDICES.

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### The Following Appendices are Enforceable Parts of This Permit:

Appendix A, Glossary.

Appendix ATP, U.S. EPA Alternative Test Procedure Approval dated June 3, 2004.

Appendix BW, Biomedical Waste Definitions.

Appendix CAM, Compliance Assurance Monitoring Plan.

Appendix HGV, DEP Order Granting Variance for Mercury Testing dated August 25, 1997.

Appendix I, List of Insignificant Emissions Units and/or Activities.

Appendix RR, Facility-wide Reporting Requirements.

Appendix TR, Facility-wide Testing Requirements.

Appendix TV, Title V General Conditions.

Appendix U, List of Unregulated Emissions Units and/or Activities.

Appendix 40 CFR 60 Subpart A, NSPS General Provisions (version dated 2/5/2010).

Appendix 40 CFR 60 Subpart Cb, Emissions Guidelines (EG) and Compliance Times for Large Municipal Waste Combustors (version dated 03/24/2010).

Appendix 40 CFR 60 Subpart Eb, NSPS for Large Municipal Waste Combustors (version dated 04/21/2008).

Appendix 40 CFR 60 Subpart IIII "Generally Applicable Requirements," Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (version dated 07/11/2006).

Appendix 40 CFR 60 Subpart WWW, NSPS for Municipal Solid Waste Landfills (version dated 08/06/2009).

Appendix 40 CFR 61 Subpart A, NESHAP General Provisions (version dated 05/06/2004).

Appendix 40 CFR 61 Subpart E, NESHAP for Mercury (version dated 03/20/03).

Appendix 40 CFR 61 Subpart M "Set A," NESHAP for Asbestos (version dated 08/19/2004).

Appendix 40 CFR 63 Subpart A, NESHAP General Provisions (version dated 01/29/2008).

Appendix 40 CFR 63 Subpart AAAA, NESHAP for Municipal Solid Waste Landfills (version dated 08/06/2009).

Appendix 40 CFR 63 Subpart ZZZZ "Generally Applicable Requirements," National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (version dated 06/30/2010)





May 2, 2013

Syed Arif  
Program Administrator  
Florida Department of Environmental Protection  
Division of Air Resource Management  
Office of Permitting & Compliance  
2600 Blair Stone Road, MS #5505  
Tallahassee, FL 32399-2400

Subject: Biosolids Pelletization Facility (BPF)  
Request for Preliminary Testing Venturi Scrubber – CAM Plan Criteria  
Impingement Tray Scrubber and Cyclone Separator Retrofit  
Title V Air Operating Permit No. 0990234-022-AV

Dear Mr. Arif:

The Solid Waste Authority of Palm Beach County (Authority) owns a Biosolids Pelletization Facility (BPF) that is collocated with the Authority's North County Resource Recovery Facility in West Palm Beach, Florida. The BPF is operated by the New England Fertilizer Company (NEFCO) under FDEP Title V Air Operating Permit No. 0990234-022-AV.

On December 13, 2012, the Department issued an exemption from obtaining an Air Construction permit for the Impingement Tray Scrubber and Cyclone Separator Retrofit Project at the BPF. As part of the authorization, we are to conduct particulate matter (PM/PM10) and visible emissions (VE) tests on both dryers 180 days after the tray scrubber/cyclonic separator work is complete. According to information submitted from NEFCO's consultant (CH2MHill), the BPF will now rely upon the venturi scrubbers for PM control to meet the PM/PM10 emission limits (BPF had not relied upon venturi scrubbers in the initial Title V permit application). Consequently, the Title V permit will be revised to include the venturi scrubbers in the CAM Plan.

NEFCO is proposing to perform diagnostic testing on the venturi scrubbers prior to the official stack test to determine operating criteria for the CAM Plan (see attachments). The test values range from 109 gpm to 0 gpm (zero flow), along with various pressure drops. The Authority is sending this letter to the Department to ask permission to perform the preliminary PM/PM10 testing at the proposed operating rates (i.e. no flow) for the venturi scrubbers.

Mr. Jeff Koerner  
May 2, 2013  
Page 2

NEFCO anticipates completing the tray scrubber/cyclonic separator work the second week of May and to complete emission testing on or before June 30, 2013. The Authority would greatly appreciate your prompt consideration of this approval to test the venturi scrubbers with no flow and variable rates because NEFCO wishes to proceed with the preliminary testing within the next few weeks. If you have any questions or need additional information, please contact Mary Beth Morrison at [mmorrison@swa.org](mailto:mmorrison@swa.org) or at (561) 640-4000 ext. 4613.

Sincerely,



Mark Hammond  
Executive Director

Enclosures

cc: Scott Sheplak, FDEP Tallahassee  
Joe Lurix, FDEP SE District  
Marc Bruner, SWA  
Ray Schauer, SWA  
Mary Beth Morrison, SWA  
Bill Hansen, NEFCO



April 30, 2013 via email

Mary Beth Morrison  
Solid Waste Authority of Palm Beach County  
7501 North Jog Road  
West Palm Beach, FL 33412

RE: Scrubber tuning

Dear Mary Beth,

As we discussed, NEFCO would like to “tune” the operation of the venturi scrubbers serving the dryer systems at SWA. To reiterate, the dryers are equipped with both tray scrubbers and venturi scrubbers, and the tray scrubbers by themselves are very good PM collection devices. The venturi scrubbers clean the dryer exhaust minimally better than the trays (if at all) and merely contribute to excess operating cost.

In the conservative analysis prepared by NEFCO and sent to FDEP previous to the cyclone and scrubber modifications, the particle size distribution and mass loadings were worst-case. Moreover, the tray scrubbers’ PM collection efficiency was based solely on the scrubbing effect of warm circulating water; i.e. no credit was taken due to condensation effects<sup>1</sup>. Under such a conservative analysis, and in the interest of time, NEFCO concluded that the venturi scrubbers should be operated at nominal flow conditions until stack testing could demonstrate adequate PM collection by the tray scrubbers alone.

NEFCO has herein provided stack test data to support operating the venturi scrubbers with reduced or zero water flow. Our Greater Lawrence Sanitary District (GLSD) dryers located in North Andover, MA are equipped with Sly tray scrubber/condensers and Sly venturi scrubbers much like those at SWA. The pressure drop and extrapolated water flows of the GLSD tray scrubbers are very similar to those at SWA subsequent to the most recent modification.

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<sup>1</sup> Condensation has a beneficial effect on PM collection. For example, see Perry’s Chemical Engineers Handbook, Sixth Edition, page 20-92.





In stack compliance testing in June 2003 at our GLSD facility, PM emission rates of 0.219, 0.190, 0.262, 0.293, 0.389, and 0.167 pounds per hour were measured with nominal water flow to the tray scrubber/condensers and with 35 gpm flowing to the venturi scrubbers.

In March 2008, NEFCO asked for and received permission from the Massachusetts DEP to conduct venturi tuning tests at GLSD similar to those proposed at SWA. With water supplied only to the tray scrubbers, PM emissions were 0.06, 0.01, 0.06, 0.05, 0.07, and 0.04 pounds per hour. PM emission rates were very close regardless of whether the venturi scrubbers were supplied with water. For unknown reasons, emissions were actually slightly lower with all scrubbing provided by the tray scrubbers and none by the venturi scrubbers.

A similar scenario was repeated in the initial stack testing in September 2009 when the SWA dryer systems were tested using just 10 gpm in each venturi (a fraction of the nominal water flow of 109 gpm).

The tested PM emission rates were an order of magnitude lower than the FDEP permit values: 0.172, 0.171, 0.144, 0.196, 0.193, and 0.191; compared with a permitted emission rate of 2.42.

Although the incorporation of venturi scrubbers in our dryer systems provides a certain amount of design comfort to regulators, developers and to clients, the venturis actually do little or nothing to further control PM above that provided by the trays scrubbers. Rather, in operation, the venturis simply consume power and create indirect emissions at off-site power plants.

We therefore ask permission to perform tuning stack tests with the tray scrubber/condensers operating at 1000 gpm or more per the CAM plan, at the venturi operating conditions below:

1. Dryer # 1, with venturi scrubber set at 109 gpm and 6" delta p
2. Dryer # 1, with venturi scrubber set at 55 gpm and 6" delta p
3. Dryer # 1, with venturi scrubber set at 10 gpm and maximum throat opening
4. Dryer # 1, with venturi scrubber set at 0 gpm and maximum throat opening
5. Dryer # 2, with venturi scrubber set at 109 gpm and 6" delta p
6. Dryer # 2, with venturi scrubber set at 55 gpm and 6" delta p
7. Dryer # 2, with venturi scrubber set at 10 gpm and maximum throat opening
8. Dryer # 2, with venturi scrubber set at 0 gpm and maximum throat opening

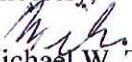


Each test is expected to take two hours. After the tuning tests are completed, the venturi scrubbers will be returned to operation at the current CAM plan conditions.

If the tuning tests indicate that less stringent venturi conditions will provide equivalent emission rates, NEFCO will then instruct the test firm to perform the compliance tests at those conditions. If tested PM emissions during tuning are unexpectedly high, the compliance tests will be performed at the current CAM plan conditions.

The last of the modifications to the air handling systems are scheduled to be complete by May 10. We plan to solicit proposals for stack testing starting tomorrow, with a due date of May 15, and to complete the testing on or before June 30, 2013.

Sincerely,

  
Michael W. Thayer  
Technical Manager

cc Jim Greer, SWA  
Brad Vermeulen, SWA  
William Hansen, NEFCO  
Manuel Irujo, NEFCO  
Larry Bishop, NEFCO  
Jordan Dimitrov, NEFCO

Enclosures (3)

**New England Fertilizer  
Company  
Lawrence, MA**

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**Compliance Test Report for  
Dryer Units A and B.**

**ENSR Corporation  
July 2003  
Document Number 10402-001-400**

**TABLE 2-2 UNIT A PARTICULATE RESULTS**

Run No.		R1	R2	R3	
Date		04-Jun-03	05-Jun-03	05-Jun-03	
Start Time	Units	1	0	1	
Stop Time		1	1	1	AVGS
<b>Sampling Parameters --</b>					
Barometric Pressure	In. Hg	30.00	29.85	29.85	29.90
Volume Metered	dcf	76.954	79.039	83.337	79.777
Volume of Gas Collected	dscf	75.054	77.020	80.935	77.670
Moisture	% w/v	3.9	3.6	3.6	3.7
O <sub>2</sub> at Stack	% dry	10.92	11.39	11.57	11.29
CO <sub>2</sub> at Stack	% dry	8.04	7.95	7.72	7.90
Avg. Stack Temp.	°F	198	222	231	217
Stack Flowrate	dscfm	3,187	3,265	3,427	3,293
Isokinetics	%	100	100	100	100
<b>Particulate Emission Results --</b>					
Front Half Rinse	mg	2.9	3.2	2.3	2.8
Particulate Filter	mg	26.0	25.2	21.0	24.1
Condensable Particulate	mg	10.2	5.6	23.5	13.1
Total Particulate	mg	39.1	34.0	46.8	40.0
PM Loading @ 7% O <sub>2</sub>	mg/dscm	25.55	22.71	30.32	26.19
Grain Loading	gr/dscf	0.008	0.007	0.009	0.008
Grain Loading @ 7% O <sub>2</sub>	gr/dscf	0.011	0.010	0.013	0.011
Grain Loading @ 12% CO <sub>2</sub>	gr/dscf	0.012	0.010	0.014	0.012
Emission Rate	lb/hr	0.219	0.190	0.262	0.224

TABLE 2-3 UNIT B PARTICULATE RESULTS

Run No.		1*	2	3	
Date		03-Jun-03	03-Jun-03	04-Jun-03	
Start Time	Units	0	1	0	
Stop Time		1	1	1	AVGS
<b><u>Sampling Parameters --</u></b>					
Barometric Pressure	in. Hg	29.95	29.95	30.00	29.98
Volume Metered	dcf	87.146	88.939	76.588	82.764
Volume of Gas Collected	dscf	81.563	85.113	74.246	79.679
Moisture	% v/v	8.0	8.0	8.0	8.0
O <sub>2</sub> at Stack	% dry	12.27	11.52	11.15	11.34
CO <sub>2</sub> at Stack	% dry	7.95	8.40	7.69	8.05
Avg. Stack Temp.	°F	220	224	240	232
Stack Flowrate	dscfm	3,284	3,545	3,055	3,300
Isokinetics	%	106	102	103	103
<b><u>Particulate Emission Results --</u></b>					
Front Half Rinse	mg	1.3	2.1	2.9	2.5
Particulate Filter	mg	26.4	30.3	18.4	24.4
Condensable Particulate	mg	27.5	38.3	9.4	23.9
Total Particulate	mg	55.20	70.70	30.70	50.70
PM Loading	mg/dscm	23.90	29.33	14.60	21.97
Grain Loading	gr/dscf	0.010	0.013	0.006	0.010
Grain Loading @ 7% O <sub>2</sub>	gr/dscf	0.017	0.019	0.009	0.014
Grain Loading @ 12% CO <sub>2</sub>	gr/dscf	0.016	0.018	0.010	0.014
Emission Rate	lb/hr	0.293	0.389	0.167	0.278

\* Run number one failed final leak check due to a broken liner and results presented for Run 1 are for informational purposes only.





# Emissions Test Report

Testing of Sludge Dryer Emission Controls at the  
Greater Lawrence Sanitary District  
North Andover, Massachusetts

Client:



Greater Lawrence Sanitary District  
240 Charles St.  
North Andover, Massachusetts 01845



TRC Environmental Corporation  
Wannalancit Mills  
650 Suffolk St  
Lowell, Massachusetts 01854

March 2008

**Table 2-1  
Train A Results**

Test Number	1	2	3	3 - Run Average	Permit Limit
Test Date	11/7/2007	11/7/2007	11/7/2007		
Start Time	845	1132	1422		
Stop Time	1053	1345	1627		
<b><u>Stack Gas Properties</u></b>					
Oxygen Concentration (% - dry)	11.46	10.65	11.08	11.07	
Carbon Dioxide Concentration (% - dry)	7.76	8.39	8.11	8.09	
Moisture Concentration (%)	8.18	9.28	9.28	8.91	
Gas Flow Rate (scfm - dry)	3,104	3,225	3,441	3,257	
Gas Flow Rate (scfm - wet)	3,380	3,555	3,793	3,576	
<b><u>NOx Emissions</u></b>					
Concentration (ppm-dry)	36.01	31.20	30.51	32.57	
Mass Emission Rate (lbs/hour)	0.80	0.72	0.75	0.76	1.2
<b><u>Carbon Monoxide Emissions</u></b>					
Concentration (ppm-dry)	20.66	21.39	21.80	21.28	
Mass Emission Rate (lbs/hour)	0.280	0.301	0.327	0.303	0.89
<b><u>Sulfur Dioxide Emissions</u></b>					
Concentration (ppm-dry)	0.00	0.00	0.14	0.05	
Mass Emission Rate (lbs/hour)	0.000	0.000	0.005	0.002	1.3
<b><u>NMOC Emissions</u></b>					
Concentration (ppm as propane-wet)	0.05	0.00	0.15	0.07	
Concentration (ppm as carbon-dry)	0.163	0.000	0.496	0.220	
Mass Emission Rate (lbs/hour)	0.001	0.000	0.004	0.002	0.22
<b><u>Particulate Emissions</u></b>					
Filterable Particulate (mg)	9.0	1.7	8.4	6.4	
Gas Sample Volume at Standard Conditions, Grain Loading, gr/dscf	60.478	63.247	66.029	63.251	
Mass Emission Rate (lbs/hour)	2.29E-03	4.14E-04	1.96E-03	1.55E-03	0.64
<b><u>Metals Emissions</u></b>					
Arsenic (ug)	< 3.75	< 3.75	< 3.75	< 3.75	
Cadium (ug)	5.13	2.43	< 0.12	< 2.56	
Gas Sample Volume at Standard Conditions, As Mass Emission Rate (lbs/hour)	60,478	63,247	66,029	63,251	
Cd Mass Emission Rate (lbs/hour)	< 2.55E-05	< 2.53E-05	< 2.59E-05	< 2.55E-05	5.68E-05
	3.48E-05	1.64E-05	< 8.27E-07	< 1.74E-05	3.59E-04

**Table 2-2  
Train B Results**

Test Number	1	2	3	3 - Run Average	Permit Limit
Test Date	11/6/2007	11/6/2007	11/6/2007		
Start Time	918	1155	1437		
Stop Time	1125	1409	1647		
<b><u>Stack Gas Properties</u></b>					
Oxygen Concentration (% - dry)	12.15	12.12	12.00	12.09	
Carbon Dioxide Concentration (% - dry)	7.16	7.24	7.33	7.25	
Moisture Concentration (%)	11.37	9.37	9.51	10.08	
Gas Flow Rate (scfm - dry)	3,471	3,045	3,605	3,374	
Gas Flow Rate (scfm - wet)	3,916	3,359	3,984	3,753	
<b><u>NOx Emissions</u></b>					
Concentration (ppm-dry)	36.39	32.52	34.03	34.31	
Mass Emission Rate (lbs/hour)	0.90	0.71	0.88	0.83	1.2
<b><u>Carbon Monoxide Emissions</u></b>					
Concentration (ppm-dry)	8.26	7.98	8.22	8.15	
Mass Emission Rate (lbs/hour)	0.125	0.106	0.129	0.120	0.89
<b><u>Sulfur Dioxide Emissions</u></b>					
Concentration (ppm-dry)	0.15	0.00	0.10	0.08	
Mass Emission Rate (lbs/hour)	0.005	0.000	0.004	0.003	1.3
<b><u>NMOC Emissions</u></b>					
Concentration (ppm as propane-wet)	0.02	0.19	0.53	0.25	
Concentration (ppm as carbon-dry)	0.068	0.629	1.757	0.818	
Mass Emission Rate (lbs/hour)	0.001	0.004	0.014	0.006	0.22
<b><u>Particulate Emissions</u></b>					
Filterable Particulate (mg)	8.1	11.3	5.9	8.4	
Gas Sample Volume at Standard Conditions,	73.814	60.725	70.910	68.483	
Grain Loading, gr/dscf	1.69E-03	2.87E-03	1.28E-03	1.95E-03	
Mass Emission Rate (lbs/hour)	0.05	0.07	0.04	0.05	0.64
<b><u>Metals Emissions</u></b>					
Arsenic (ug)	4.45	< 3.75	< 3.75	< 3.98	
Cadium (ug)	< 0.12	1.03	< 0.12	< 0.42	
Gas Sample Volume at Standard Conditions,	73.814	60.725	70.910	68.483	
As Mass Emission Rate (lbs/hour)	2.77E-05	< 2.51E-05	< 2.52E-05	< 2.60E-05	5.68E-05
Cd Mass Emission Rate (lbs/hour)	< 7.46E-07	6.90E-06	< 8.08E-07	< 2.82E-06	3.59E-04



**TEST REPORT**

**COMPLIANCE EMISSIONS TESTING**

**NEW ENGLAND FERTILIZER COMPANY**

**OCTOBER 12, 2009**

**PREPARED FOR:** New England Fertilizer Company  
500 Victory Road, 4<sup>th</sup> Floor  
North Quincy, Massachusetts 02171

**CONCERNING:** Compliance Emissions Testing  
Solid Waste Authority of Palm Beach County  
North County Resource Recovery Facility (NCRRF)  
Biosolids Pelletization Facility  
7501 North Jog Road  
West Palm Beach, Florida 33412  
(FDEP) Permit No. 0990234-006-AC/PSD-FL-108F

**PREPARED BY:** CK Environmental, Inc.  
1020 Turnpike Street, Unit 8  
Canton, MA 02021  
*CK Project No.3490*

Table 3-2  
 Summary of Performance Testing Emissions  
 NEFCO - SWA  
 Train #1 RTO Exhaust  
 Palm Beach, FLA  
 9/10/08



Test Run No. Date Time	M101A - Run 1		Run 2	Run 3	Average	Facility Permit Limit (lb/hr)
	9/10/08 8:12 10:16	9/10/08 10:16	9/10/08 11:00 13:05	9/10/08 14:45 16:50		
<b>Sample Conditions</b>						
Volume (dscf) <sup>a</sup>	96,279	96,317	96,203	96,203	96,203	
Volume (dscm) <sup>b</sup>	2,698	2,728	2,724	2,724	2,724	
Isokinetics (%)	91.6	92.9	93.3	93.3	93.3	
Sludge Feed Rate (wet tons/hr)	14.1	14.4	14.5	14.5	14.3	
<b>Stack Conditions</b>						
Opacity (%)	0	0	0	0	0	5
Flow Rate (dscfm) <sup>c</sup>	11,474	11,514	11,521	11,521	11,521	
Temperature (°F)	278.0	277.6	283.8	283.8	283.8	
Moisture (%)	11.2	11.1	9.6	9.6	9.5	
Oxygen (%)	11.1	10.5	10.6	10.6	10.6	
Carbon Dioxide (%)	3.6	9.0	8.8	8.8	8.8	
Oxides of Nitrogen (PPM)	40.0	50.2	50.1	50.1	50.0	5.6
Oxides of Nitrogen (lb/hr)	3.3	4.1	4.1	4.1	3.8	
Carbon Monoxide (PPM)	14.6	13.8	17.9	17.9	15.4	
Carbon Monoxide (lb/hr)	0.7	0.7	0.9	0.9	0.8	3.37
Volatiles Organic Compounds (PPM)	9.9	11.2	11.2	11.2	10.8	
Volatiles Organic Compounds (lb/hr)	0.78	0.87	0.89	0.89	0.84	1
Sulfur Dioxide (PPM)	16.29	20.49	20.07	20.07	15.3	
Sulfur Dioxide (lb/hr)	1.86	2.31	1.04	1.04	1.7	4.45
Mercury (Hg) Catch (ug)	0.95	3.18	2.95	2.95	0.0	
Mercury (Hg) Catch (mg/dscf)	0.00095	0.00318	0.00295	0.00295	0.0	
Hg Concentration (lb/hr)	1.000E-05	3.298E-05	3.064E-05	3.064E-05	2.45E-05	9.22E-04
Hg Emission Rate (lb/hr)	1.5167E-05	4.9320E-05	4.6658E-05	4.6658E-05	3.70E-05	
<b>Particulate Matter and PM10 Emissions</b>						
Total PM Catch (mg)	10.8	11.0	9.1	9.1	10.3	
Concentration (ug/dscfm)	0.1134	0.1142	0.0946	0.0946	0.1	
(lb/min)(ft)	113.351	0.972	0.788	0.788	38.4	
Emission Rate (lb/hr)	0.005	0.005	0.004	0.004	0.162	2.42

a) dry standard cubic feet  
 b) dry standard cubic meters  
 c) dry standard cubic feet per minute  
 d) based on PM emission rate



**Summary of Performance Testing Emissions**  
**NEFCO - SWA**  
**Train # 2 RTO Exhaust**  
**Palm Beach, FLA**  
**9/12/09**

Test Run No.	MH01A - Run 1		Run 2		Run 3		Average	Facility Permit Limit
	Date	Start	9/12/09	9/12/09	9/12/09	9/12/09		
Time	Stop	14:53	14:56	15:20	19:34	21:40		
<b>Sample Conditions</b>								
Volume	(dscf) <sup>a</sup>	112.884	106.331	112.069			112.069	
Volume	(dscm) <sup>b</sup>	3.197	3.011	3.174			3.174	
Isokinetics	(%)	105.1	105.2	108.6			108.6	
Sludge Feed Rate	(wet tons/hr)	14.4	13.3	14.2			14.2	
<b>Stack Conditions</b>								
Opacity	(%)	0	0	0			0	5
Flow Rate	(dscfm) <sup>c</sup>	11.887	11.145	11.521			11.521	
Temperature	(°F)	274.7	258.0	313.4			313.4	
Moisture	(%)	9.9	11.9	11.4			11.4	
Oxygen	(%)	10.2	9.8	10.9			10.9	
Carbon Dioxide	(%)	9.1	9.4	10.3			10.3	
Oxides of Nitrogen	(PPM)	29.8	30.0	27.4			30.0	5.6
Oxides of Nitrogen	(lb/hr)	2.5	2.4	2.3			2.4	
Carbon Monoxide	(PPM)	20.2	20.0	32.0			24.1	33.37
Carbon Monoxide	(lb/hr)	1.0	1.0	1.6			1.2	
Volatile Organic Compounds	(PPM)	12.0	12.1	12.0			12.0	1
Volatile Organic Compounds	(lb/hr)	0.97	0.92	0.95			0.95	
Sulfur Dioxide	(PPM)	24.59	30.00	19.10			24.6	4.45
Sulfur Dioxide	(lb/hr)	2.90	3.33	2.19			2.8	
Mercury (Hg) Catch	(ug)	5.56	6.10	3.50			3.50	
Mercury (Hg) Catch	(mg)	0.00556	0.00610	0.00350			0.0	
Hg Concentration	(mg/dscf)	4.922E-05	5.741E-05	3.123E-05			4.60E-05	
Hg Emission Rate	(lb/hr)	7.7061E-05	3.4553E-05	4.7552E-05			6.97E-05	9.22E-04
<b>Particulate Matter and PM10 Emissions</b>								
Total PM Catch	(mg)	14.1	13.9	14.0			14.0	
Concentration	(mg/dscfm)	0.1249	0.1307	0.1249			0.1	
	(ug/dscfm)	1.190	1.247	1.212			1.2	
Emission Rate	(lb/mmhb)	0.005	0.005	0.005			0.005	
	(lb/hr)	0.196	0.193	0.191			0.193	2.42

a) dry standard cubic feet  
 b) dry standard cubic meters  
 c) dry standard cubic feet per minute  
 d) based on PM emission rate

**REQUEST FOR PROPOSALS**

**FOR**

**STACK TESTING SERVICES**

---

**AT THE**

**SOLID WASTE AUTHORITY OF PALM BEACH COUNTY**

**BIOSOLIDS DRYING FACILITY**

**APRIL 30, 2013**



Proposals will be accepted until noon, May 15, 2013. Proposals should be addressed to New England Fertilizer Company, 500 Victory Road, Quincy MA 02171, Attn: Mike Thayer. Proposals may be mailed or emailed in protected format such as Adobe pdf files to [sludgy@nefcobiosolids.com](mailto:sludgy@nefcobiosolids.com)

### STACK SAMPLING LOCATION



### II. Preliminary "tuning":

The preliminary test program will consist of eight initial PM tests to make adjustments to determine the best operating conditions for its pollution controls. VE testing of the dryers is not required during tuning. Each dryer system will be tuned and tested separately. All tests shall be conducted at the RTO outlet stack, and with the RTO operating.

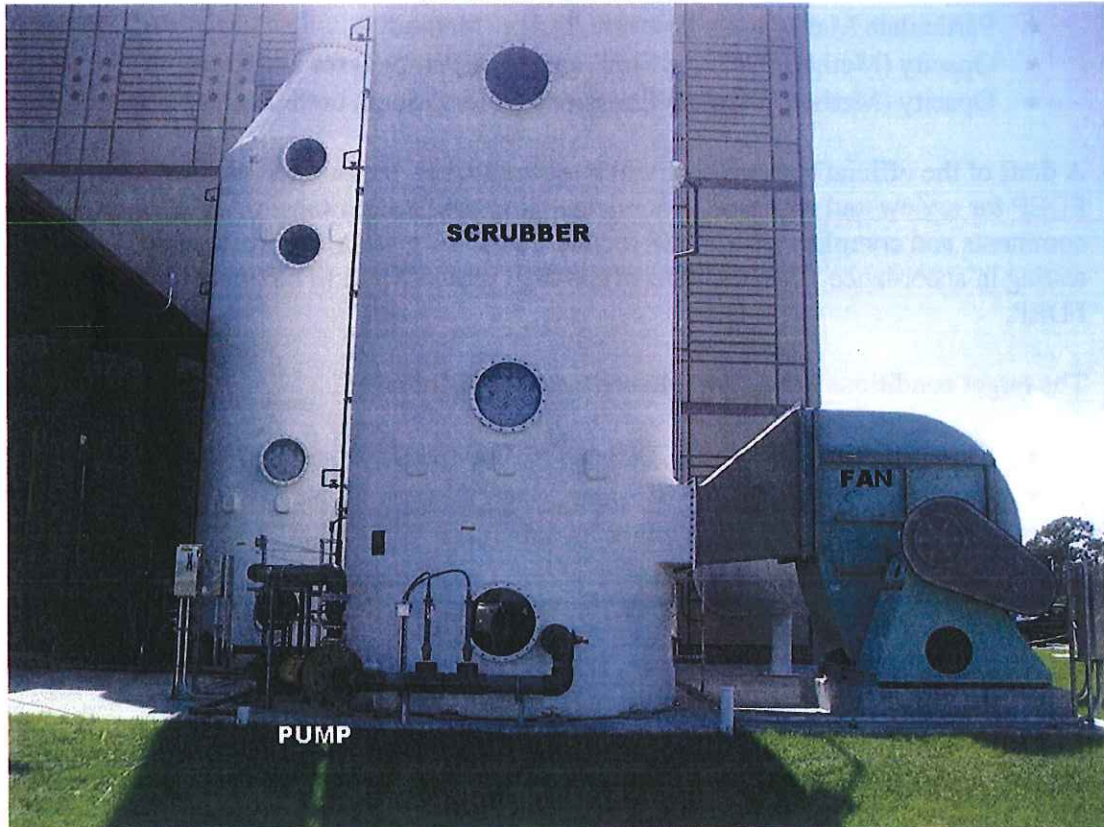
The target conditions for all tests:

- Dryer feed rate between 25,000 and 28,000 (wet) pounds per hour
- 15 - 20% solids in feed
- >1000 gpm flow through tray scrubber
- RTO temperature setpoint at 1600°F



The separator outlet ducts have been drilled with ~ ½” diameter holes and tapped to allow insertion of pitot tubes. The ducts are accessible from the roof via a ladder inside the building.

### **ODOR SCRUBBERS**



The odor control scrubber stacks are visible from ground level.

The site may be visited by proposers by contacting our on-site construction manager, Armand Asselin by phone 508-868-2128, or email: [aasselin@nefcobiosolids.com](mailto:aasselin@nefcobiosolids.com).

#### **Deliverables for tuning tests:**

The PM and flow data collected during the tuning test program shall be summarized and presented in writing to NEFCO within 24 hours of the completion of the eight tests. Once the data has been received and reviewed by NEFCO, venturi scrubber operating adjustments will be made prior to the official testing.





# FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

BOB MARTINEZ CENTER  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32399-2400

RICK SCOTT  
GOVERNOR  
HERSCHEL T. VINYARD JR.  
SECRETARY

*Sent by Electronic Mail - Received Receipt Requested*

Mr. Mark Hammond, Executive Director  
North County Regional Resource Recovery Facility  
Solid Waste Authority of Palm Beach County  
7501 North Jog Road  
West Palm Beach, Florida 33412-2414

Re: North County Regional Resource Recovery Facility  
Project No. 0990234-027-AC  
CAM Testing - Venturi Scrubbers (Project)  
Testing Authorization

Dear Mr. Hammond:

This is a response to your letter dated May 2, 2013, regarding the proposed stack testing to establish Compliance Assurance Monitoring (CAM) parameters for the modified tray scrubbers and cyclonic separators at the Biosolids Pelletization Facility (BPF) (project) at the North County Regional Resource Recovery Facility located in Palm Beach County at 7501 North Jog Road in West Palm Beach, Florida.

**Determination:** The permittee proposed stack testing to establish CAM parameters for the modified tray scrubbers and cyclonic separators at the BPF (project).

Pursuant to Rule 62-4.040(1)(b), Florida Administrative Code (F.A.C.) and for the reasons stated in the Technical Evaluation, the Office of Permitting and Compliance hereby determines that the proposed activity (project) will not emit air pollutants "... *in sufficient quantity, with respect to its character, quality or content, and the circumstances surrounding its location, use and operation, as to contribute significantly to the pollution problems within the State, so that the regulation thereof is not reasonably justified.*"

Section 403.061(18), Florida Statutes, authorizes the Department to encourage studies, investigations and research relating to pollution and its causes, effects, prevention, abatement and control. Stack testing was requested by the applicant to study scrubber performances.

Therefore, the permittee is authorized to conduct the proposed activity. The applicant shall submit the tuning stack tests and compliance stack tests along with the scrubbers' operating parameters during all of the testing to the Department. In the test results, the applicant shall indicate whether or not the venturi scrubbers are needed in fact to achieve the particulate matter (PM) emission limit. This testing authorization expires on **June 30, 2013**.

This determination may be revoked if the proposed activity is substantially modified or the basis for the authorization is determined to be materially incorrect. A copy of this letter shall be maintained at the site of the proposed activity. This decision is made pursuant to Chapter 403, Florida Statutes.

**Permitting Authority:** Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210 and 62-212, F.A.C. The Permitting Authority responsible for making a determination for this project is the Office of Permitting and Compliance in the Department of Environmental Protection's Division of Air Resource Management. The Permitting Authority's physical and mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/717-9000.

**Petitions:** A person whose substantial interests are affected by the proposed decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the agency clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35,

## TESTING AUTHORIZATION

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Tallahassee, Florida 32399-3000. Petitions must be filed within 21 days of receipt of this exemption from air permitting requirements. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this action. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

**Mediation:** Mediation is not available in this proceeding.

**Effective Date:** This decision is final and effective on the date filed with the clerk of the Permitting Authority unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition pursuant to Rule 62-110.106, F.A.C., and the petition conforms to the content requirements of Rules 28-106.201 and 28-106.301, F.A.C. Upon timely filing of a petition of a request for extension of time, this action will not be effective until further order of the Permitting Authority.

**Judicial Review:** Any party to this decision (order) has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

## TESTING AUTHORIZATION

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Executed in Tallahassee, Florida

*for* Jeffery F. Koerner, Program Administrator  
Office of Permitting and Compliance  
Division of Air Resource Management

JFK/sa/sms

### **CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this **Testing Authorization** and the **Technical Evaluation** were sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the persons listed below.

Mr. Mark Hammond, SWA: [mhammond@swa.org](mailto:mhammond@swa.org)  
Ms. Mary Beth Morrison, SWA: [mmorrison@swa.org](mailto:mmorrison@swa.org)  
Mr. Lee Hoefert, P.E., DEP SED: [lee.hoefert@dep.state.fl.us](mailto:lee.hoefert@dep.state.fl.us)  
Mr. James Stormer, PBCHD: [james\\_stormer@doh.state.fl.us](mailto:james_stormer@doh.state.fl.us)  
Ms. Cindy Mulkey, DEP Siting: [cindy.mulkey@dep.state.fl.us](mailto:cindy.mulkey@dep.state.fl.us)  
Ms. Heather Ceron, U.S. EPA Region 4: [ceron.heather@epa.gov](mailto:ceron.heather@epa.gov)  
Ms. Katy R. Forney, U.S. EPA Region 4: [forney.kathleen@epa.gov](mailto:forney.kathleen@epa.gov)  
Ms. Barbara Friday, DEP OPC: [barbara.friday@dep.state.fl.us](mailto:barbara.friday@dep.state.fl.us)  
Ms. Lynn Scarce, DEP OPC: [lynn.scarce@dep.state.fl.us](mailto:lynn.scarce@dep.state.fl.us)

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED**, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.