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BUREAU OF  
AIR REGULATION

April 13, 2010

Mr. Scott Sheplak, P.E.  
Florida Department of Environmental Protection  
Title V Section  
Mail Station No. 5505  
2600 Blair Stone Road  
Tallahassee, Florida 32399

Subject: Solid Waste Authority of Palm Beach County  
Biosolids Pelletization Facility  
Title V Air Operation Permit Revision Application  
Additional Information, File No. 0990234-016-AV

Dear Mr. Sheplak:

This letter is in response to the Request for Additional Information dated January 13, 2010.  
Our responses are as follows:

**Question No. 1:** **Initial Compliance Testing:** The emissions units under this project, e.g., sludge dryers and recycle material bin/pellet storage silos, are required to demonstrate initial compliance. The permit revision application indicated that the sludge dryers had been tested on September 10-12, 2009. The cover page for the sludge dryers' test report was submitted as an attachment. The cover page simply conveyed the test report.

- A) Was compliance successfully demonstrated by the sludge dryers and the recycle material bin/pellet storage silos? What were the actual test results? Please prepare a chart showing the actual test results versus the emission standards/limitations.
- B) At what process rate were the dryers tested in wet tons of sludge per day? Were the dryers tested while firing landfill gas?





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Response:

- A) Testing was performed on each dryer train to quantify emissions of CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, VOCs, Mercury, and opacity. In addition, the emissions test program determined the destruction efficiency of volatile organic compounds. Attachment 1 shows the results of the emissions test program. This program demonstrated compliance with the limits specified by the FDEP Bureau of Air Regulations. During testing, the inlet VOC concentrations were too low to obtain 98% destruction efficiency in the RTO. The permit conditions are satisfied by having a VOC outlet emission rate of < 1 lb/hr.
- B) Both trains satisfied the permit requirements for the pollutants measured while running at short-term peak sludge feed rates of 14.3 and 14.2 wet tons per hour, for Trains 1 and 2, respectively. (Note that during the testing and at all times, the daily sludge feed rates do not exceed the permit limits of 337.5 wet tons per day for each train.) During all testing, both trains were operating on 100% landfill gas. A summary of results for each of the trains is presented in Attachment 1.

**Question No. 2:** New Applicable Requirements - Engines: Permit No. 0990234-006-AC/PSD-FL-IO8F, was originally issued on February 3, 2006. Subsequent to this permit, several new federal regulations have been promulgated by U.S. EPA and adopted by the State of Florida. Some of these new federal regulations may be new applicable requirements applying to certain types of engines.

- A) **New Applicable Requirements - New Source Performance Standards (NSPS) Requirements from 40 Code of Federal Regulations (CFR) 60:**

40 CFR 60 Subpart IIII also known as (a.k.a.) NSPS "4-I's" or "CI-ICE"

U.S. EPA promulgated on July 11, 2006, the NSPS for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE) under 40 CFR 60 Subpart IIII. This new NSPS applies to new engines. Florida adopted this regulation by reference soon thereafter at Rule 62- 204.800(8)(b), Florida Administrative Code (F.A.C.).



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Is the emergency generator an engine regulated under this new NSPS?

If not, please provide key non-applicability descriptors to show that the engine is clearly not subject to these new NSPS, like 'existing,' model year/construction(manufacturer) date, manufacturer name, size of engine, e.g., equivalent brake horsepower (HP), type of engine, etc.

B) New Applicable Requirements - National Emissions Standards for Hazardous Air Pollutants (NESHAP) Requirements also known as (a.k.a) Maximum Available Control Technologies (MACT) from 40 CFR 63 Subpart ZZZZ:

40 CFR 63 Subpart ZZZZ a.k.a. MACT "4-Z's" or "RICE MACT"

U.S. EPA promulgated on February 24, 2004, the Reciprocating Internal Combustion Engines (RICE) MACT under 40 CFR 63 Subpart ZZZZ. This new MACT applies to new and existing engines at a Title V source that is a major source of hazardous air pollutants (HAP). Florida adopted this regulation by reference soon thereafter at Rule 62-204.800(11)(b), Florida Administrative Code (F.A.C.).

This facility is a major source of HAP. This new MACT may therefore apply. Is the emergency generator an engine regulated under the RICE MACT?

If not, please provide key non-applicability descriptors to show that the engine is clearly not subject to the RICE MACT, like 'existing,' model year/construction (manufacturer) date, manufacturer name, size of engine, e.g., equivalent brake horsepower (HP), type of engine, e.g., compression ignition (CI), etc.



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Response:

We have reviewed the new federal regulations and determined that the new Biosolids Pelletization Facility (BPF) Emergency Generator at the North County Resource Recovery Facility (NCRRF) is subject to the 40 CFR Part 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines and 40 CFR Part 60 Subpart IIII - Standards of Performance (NSPS) for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE).

The New BPF Emergency Generator is subject only to the Initial Notification and hours restrictions requirements of the NESHAP, because it will operate exclusively as emergency stationary RICE, has a site rating of more than 500 brake horsepower, and is located at a major source of HAP emissions. (40 CFR 63 Subparts 63.6590(a)(2)(i) and (b)(1)(i)) These requirements are summarized, below.

The limited requirements for the emergency engine are:

- Provide an Initial Notification in accordance with Subsection 63.6645(f) (40 CFR 63.6590(b)(1)); and
- Meet the definition of an Emergency Stationary RICE in Subsection 63.6675 by limiting operation of the engine generator set to up to 100 hours per year for maintenance checks and readiness testing, and for additional unlimited time for emergencies only, as specified in 40 CFR 60.4243(d).

The Initial Notification for the BPF emergency generator is included in Attachment 2 to this letter.



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The New BPF Emergency generator is a CI ICE, manufactured in 2007, and therefore is subject to the 40 CFR Part 60 Subpart IIII. 40 CFR 60 Subpart IIII requires that the New BPF Emergency Generator:

- Be certified to the emission standards for new non-road CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 89.113. (40 CFR 60.4205(b)) For this engine, certification to U.S. EPA Tier 3 emissions standards is required (Table 1, 40 CFR 89.112);

Use diesel fuel that meets the requirements of 40 CFR 80.510(a), including sulfur content less than or equal to 0.05% by weight (40 CFR 60.4207);

- Be operated and maintained in accordance with manufacturer's written instructions; (40 CFR 60.4211) and
- Have a non-resettable hour meter installed prior to engine startup to track compliance with the hours restriction in 40 CFR 60.4243(d), cited above. (40 CFR 60.4209)

No Initial Notification is required for emergency engines under 40 CFR 60 Subpart IIII. (40 CFR 60.4214(b)) The engine specifications, included with the notification letter, show that the New BPF Emergency Generator is a U.S.-EPA-certified Tier 3 engine (40 CFR 89), and is in compliance with the emission standards of 40 CFR Part 60 Subpart IIII for CI engines.

**Question No. 3: New Applicable Requirements - Compliance Assurance Monitoring (CAM). The U.S. EPA promulgated and the State of Florida adopted the CAM federal regulation, 40 CFR 64, at Rule 62-204.800, F.A.C., sometime around 2001. CAM may apply to pollutants for which federal standards were promulgated pre-1990 (see the CAM federal regulation, for the complete applicability). CAM does not apply to post-1990 federal standards for certain pollutants.**

- A) Please address the applicability of CAM to the emissions units under this project, providing supporting details when CAM is not applicable.



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- B) Please address specifically the applicability of CAM to the sludge dryer train numbers 1 and 2. As part of the response, focus on the following air pollutant emission standards/limitations for NO<sub>x</sub>, PM, PM<sub>10</sub>, SO<sub>2</sub>, CO, VOC and Hg including the pre-air pollution control device estimates of emissions in tons per year (TPY) along with the supporting calculations. If CAM in fact does apply, a CAM Plan will need to be submitted.**

Response:

The Compliance Assurance Monitoring (CAM) Rule, 40 CFR 64 was written to provide a "reasonable assurance" of continuous compliance with emissions limitations or standards in cases where the underlying requirement for an emissions unit does not require continuous emissions monitoring and for units that are part of major sources that have Title V operating permits. The rule applies to a pollutant-specific emissions limit for a unit at a major source required to have a Title V permit, if the unit satisfies all of the following criteria:

- 1) The unit is subject to a federally enforceable emissions limitation, other than an exempt (defined below) emissions limitation;
- 2) The unit uses a control device to achieve compliance with the emissions limitation; and
- 3) The unit has potential pre-control device emissions of the regulated air pollutant that will equal or exceed the amount, in tons per year required for a source to be classified as a major source (100 tons per year for criteria air pollutants and 10 tons per year for an individual HAP).

The exempt emissions limitations include any NESHAPs or NSPS proposed after November 15, 1990. (The other exemptions are not relevant to the BPF.)

The BPF rotary dryers are required to meet emissions limits for mercury (based on the Mercury NESHAP), NO<sub>x</sub> (based on BACT requirements), PM (based on BACT), and SO<sub>2</sub>, CO and VOC (based on Rule 62-4.070(1)&(3), F.A.C. providing the Department reasonable assurance that significant emission rates for these pollutants would not be exceeded) .



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Applicability of CAM for each of these emissions limits is discussed below.

The Mercury NESHAP was promulgated in October 1975, so Criterion 1 applies. The BPF's tray condenser and venturi scrubber will serve to remove some mercury from the flue gas. However, no removal credit was taken for mercury emissions in the proposed mercury emission rate for the BPF in the air preconstruction permit application, so a control device is not necessary to meet the emission limit, and Criterion 2 does not apply. The uncontrolled maximum potential mercury emission rate from the BPF is well below 10 tons per year ( $8.08 \times 10^{-3}$  tons per year), so Criterion 3 does not apply, and a CAM plan is not required for mercury emissions.

Each BPF rotary dryer has a BACT-based emission limit for  $\text{NO}_x$ . This limit is not exempt, so Criterion 1 applies. If the dryer's low- $\text{NO}_x$  burner were considered a control device, Criterion 2 will apply. However, the uncontrolled  $\text{NO}_x$  emission rate from each BPF dryer was calculated in the preconstruction air permit application to be 35 tons per year. Therefore, Criterion 3 is not met, and a CAM plan is not required for  $\text{NO}_x$  emissions.

Each BPF rotary dryer also has a BACT-based emission limit for PM. This limit is not exempt, so Criterion 1 applies. Since PM is controlled by the impingement tray scrubber and venturi scrubber, Criterion 2 applies. As calculated in the preconstruction air permit application, the uncontrolled PM emission rate from each BPF dryer would be 788 tons per year (10.6 tons after control). This exceeds the 100-ton-per-year threshold, so Criterion 3 is met, and a CAM Plan is required for PM emissions from the dryers. Since all PM emissions have been assumed to be  $\text{PM}_{10}$ , the same analysis applies for  $\text{PM}_{10}$ .

No removal credit was taken for either  $\text{SO}_2$  or CO in the air preconstruction permit application, so a control device is not necessary to meet the emission limitations for these pollutants, and Criterion 2 does not apply. Therefore, a CAM Plan is not required for either of these two pollutants.



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For VOC, a regenerative thermal oxidizer (RTO) providing a 98 percent destruction removal efficiency has been specified to meet the emission limitation, so Criterion 2 does apply. The uncontrolled VOC emission rate from each BPF dryer would be 465 tons per year (9.3 tons after control). This exceeds the 100-ton-per-year threshold, so Criterion 3 is met. With respect to Criterion 1, the U.S. EPA's CAM Technical Guidance Document says that the CAM Rule applies only to those emission limitations or standards that are included as federally enforceable conditions in a Part 70 (Title V) permit. (U.S. EPA, August 1998, *Technical Guidance Document for Compliance Assurance Monitoring*, Section 1.2.1, available at <http://www.epa.gov/ttn/emc/cam/toc-ch3.pdf>) Since the VOC limit in the preconstruction permit was set to provide the Department "reasonable assurance to confirm the vendor's guarantee," and is not based on a BACT or NESHAP requirement, the SWA requests that the Department specify in the Title V permit revision for the BPF that the VOC limit is not federally enforceable. If the Department agrees, then Criterion 1 does not apply, and a CAM Plan is not required for VOC.

Based on the analysis above, the SWA proposes to prepare a CAM Plan for BPF rotary dryer PM and PM<sub>10</sub> emissions. 40 CFR 64.5, which contains submittal deadlines for CAM Plans states that for large emission units (those with post-control emission rates greater than or equal to 100 tons per year), the CAM Plan is due with the Title V permit application. For all other units, the CAM submittal is due with the first Title V permit renewal for the unit. Since each BPF dryer's post-control PM/PM<sub>10</sub> emission rate is only 10.6 tons per year, this CAM Plan would be due with the SWA NCRRF Title V renewal application later this year, and not necessarily as part of this Title V revision application for the BPF. However, SWA is currently working on a draft CAM Plan which will be submitted under separate cover.

As required by 40 CFR 64.4, the CAM Plan will:

- Describe the indicators to be monitored for the PM removal device;
- Describe the ranges or the process to set indicator ranges;





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- Describe the performance criteria for the monitoring, including:
  - specifications for obtaining representative data;
  - verification procedures to confirm the monitoring's operational status;
  - quality assurance and control procedures;
  - monitoring frequency (1 time per day (minimum), because post-control emissions are less than the major source threshold); and
  - data averaging period.
- Provide a justification for the use of parameters, ranges, and monitoring approach;
- Provide emissions test data; and, if necessary,
- Provide an implementation plan for installing, testing, and operating the monitoring equipment.

Each BPF rotary dryer uses a polyclone on the dryer exhaust to remove the pellets and heavier particles. After leaving the polyclone, the exhaust gases pass through a tray condenser to cool them down, condense volatilized metals onto the particulate matter, condense water vapor, and remove ammonia. The equipment vendor has guaranteed that the tray scrubber / condenser alone will remove at least 97 percent of the inlet PM. Sixty-five percent of the exhaust flow is then recycled back to the dryer (not emitted), with 35 percent going through a venture scrubber as a polishing step, before being emitted through the RTO through the exhaust stack. No credit was taken in the preconstruction permit application for additional PM removal by the venturi scrubber and RTO, so the SWA will prepare the draft CAM Plan for the performance of the tray scrubber / condenser.

The U.S. EPA's *Technical Guidance Document for Compliance Assurance Monitoring* (U.S. EPA, August 1998, available at: <http://www.epa.gov/ttn/emc/cam.html>) and its regularly updated appendices, contain model CAM Plans meeting all U.S. EPA requirements. The SWA will use Example A.14, "Scrubber for PM Control - Facility N," as the basis for its draft Plan.



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**Question No. 4:**     **Cooling Towers: Do the cooling towers use chromium-based water treatment chemicals?**

**Response:**           NEFCO did not provide chemical treatment dosing systems for the cooling towers. They do not plan to use chromium-based cooling water treatment chemicals.

**Question No. 5:**     **Sludge Dryers: Who was the manufacturer of the sludge dryer trains?**

**Response:**           The sludge dryer is a Baker Rullman Drum Assembly, Model No. SD 125-42.

We trust that these responses adequately address each question. If you need further clarification, feel free to contact me at 561-689-3336.

Very truly yours,

Manuel J. Hernandez, P.E.  
No. 89798  
Project Manager  
Camp Dresser & McKee Inc.

MJH/tof

Enclosures

cc:     Mr. Mark Hammond, SWA  
       Mr. Mark McLean, SWA  
       Ms. Mary Beth Morrison, SWA  
       Ms. Amber Barritt, P.E., CDM

ecc:    Mr. Mike Halpin, P.E., DEP Siting  
       Mr. Lennon Anderson, P.E., DEP SED  
       Mr. James E. Stormer, PBCHD  
       Ms. Victoria Gibson, DEP BAR  
       Ms. Cynthia S. Hibbard, CDM

File:   2678.73671.191.PM.ODC

ATTACHMENT 1

Summary of Performance Testing Emissions



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

Test Run No.		M101A - Run 1	Run 2	Run 3	Average	Facility Permit Limit (lb / hr)
Date		9/10/09	9/10/09	9/10/09		
Time	Start	8:12	11:00	14:45		
	Stop	10:16	13:05	16:50		
<b>Sample Conditions</b>						
Volume	(dscf) <sup>a</sup>	95.279	96.317	96.203	96.203	
Volume	(dscm) <sup>b</sup>	2.698	2.728	2.724	2.724	
Isokinetics	(%)	91.6	93.9	93.3	93.3	
Sludge Feed Rate	(wet tons/hr)	14.1	14.4	14.5	14.3	
<b>Stack Conditions</b>						
Opacity	(%)	0	0	0	0	5
Flow Rate	(dscfm) <sup>c</sup>	11,474	11,314	11,521	11,521	
Temperature	(°F)	278.0	277.6	283.8	283.8	
Moisture	(%)	11.2	11.1	9.6	9.6	
Oxygen	(%)	11.1	10.5	10.6	10.6	
Carbon Dioxide	(%)	8.6	9.0	8.8	8.8	
Oxides of Nitrogen	(PPM)	40.0	50.2	50.1	0.0	
Oxides of Nitrogen	(lb/hr)	3.3	4.1	4.1	3.8	5.6
Carbon Monoxide	(PPM)	14.6	13.8	17.9	15.4	
Carbon Monoxide	(lb/hr)	0.7	0.7	0.9	0.8	3.37
Volatile Organic Compounds	(PPM)	9.9	11.2	11.2	10.8	
Volatile Organic Compounds	(lb/hr)	0.78	0.87	0.88	0.84	1
Sulfur Dioxide	(PPM)	16.29	20.49	9.07	15.3	
Sulfur Dioxide	(lb/hr)	1.86	2.31	1.04	1.7	4.45
Mercury (Hg) Catch	(ug)	0.95	3.18	2.95		
Mercury (Hg) Catch	(mg)	0.00095	0.00318	0.00295	0.0	
Hg Concentration	(mg/dscf)	1.000E-05	3.298E-05	3.064E-05	2.45E-05	
Hg Emission Rate	(lb/hr)	1.5167E-05	4.9320E-05	4.6658E-05	3.70E-05	9.22E-04
<b>Particulate Matter and PM10 Emissions</b>						
Total PM Catch	(mg)	10.8	11.0	9.1	10.3	
Concentration	(mg/dscfm)	0.1134	0.1142	0.0946	0.1	
	(ug/dscfm)	113.351	0.972	0.788	38.4	
	(lb/mmbtu)	0.005	0.005	0.004		
Emission Rate	(lb/hr)	0.172	0.171	0.144	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



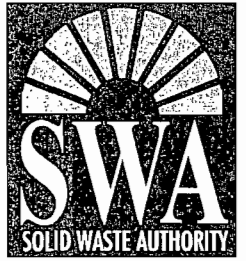
**Summary of Performance Testing Emissions**  
**NEFCO - SWA**  
**Train # 2 RTO Exhaust**  
**Palm Beach, FLA**  
**9/12/09**

Test Run No.		M101A - Run 1	Run 2	Run 3	Average	Facility Permit Limit
Date		9/12/09	9/12/09	9/12/09		
Time	Start	12:32	15:20	19:34		
	Stop	14:36	17:30	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	13.8	14.2	14.2	
<b>Stack Conditions</b>						
Opacity	(%)	0	0	0	0	5
Flow Rate	(dscfm) <sup>c</sup>	11,847	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	0.0	
Oxides of Nitrogen	(lb/hr)	2.5	2.4	2.3	2.4	5.6
Carbon Monoxide	(PPM)	20.2	20.0	32.0	24.1	
Carbon Monoxide	(lb/hr)	1.0	1.0	1.6	1.2	\$3.37
Volatile Organic Compounds	(PPM)	12.0	12.1	12.0	12.0	
Volatile Organic Compounds	(lb/hr)	0.97	0.92	0.95	0.95	1
Sulfur Dioxide	(PPM)	24.59	30.00	19.10	24.6	
Sulfur Dioxide	(lb/hr)	2.90	3.33	2.19	2.8	4.45
Mercury (Hg) Catch	(ug)	5.56	6.10	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	8.4553E-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	
	(lb/mmbtu)	0.005	0.005	0.005		
Emission Rate	(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

ATTACHMENT 2

Initial Notification Letter - BPF Emergency Generator



YOUR PARTNER FOR  
SOLID WASTE SOLUTIONS

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**APR 14 2010**

**BUREAU OF  
AIR REGULATION**

April 12, 2010

Mr. Joe Kahn, Director  
Florida Department of Environmental Protection  
Division of Air Resource Management  
2600 Blair Stone Road MS 5500  
Tallahassee, Florida 32399-2400

Subject: Solid Waste Authority of Palm Beach County (SWA)  
North County Resource Recovery Facility  
Facility ID Number 0990234  
Installation of a New Emergency Generator at Biosolids Pelletization Facility  
NESHAP/NSPS Applicability and Initial Notification

Dear Mr. Kahn:

The Solid Waste Authority (SWA) of Palm Beach County operates a 2,000-ton-per-day municipal waste combustor plant, Class I and Class III landfills, and other solid waste management facilities at the North County Resource Recovery Facility (NCRRF) located at 7501 North Jog Road, West Palm Beach, Florida. These facilities currently operate under Title V Air Operation Permit No. 0990234-013-AV, issued on December 12, 2008. The SWA recently completed the construction and start-up of a Biosolids Pelletization Facility (BPF) at the NCRRF Site. The BPF was constructed under the Florida Department of Environmental Protection (FDEP) Permit No. 0990234-006-AC. The SWA has installed a new Stationary Reciprocating Internal Combustion Engine (RICE) that has a site rating of greater than 500 brake horse power (bhp) and will operate exclusively as an Emergency Stationary RICE at the BPF located at the NCRRF. NCRRF Site is a major source of hazardous air pollutants (HAPs), so the new BPF Emergency Generator is subject to 40 CFR Part 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines. It is also subject to 40 CFR Part 60 Subpart IIII – Standards of Performance (NSPS) for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE).

This letter provides a regulatory applicability review for this engine generator and the required Initial Notification.

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The new BPF Emergency Generator is a Kohler Model No. 350REOZDD 60-Hz Diesel Generator Set. It has an emergency standby power output rating of 550 brake horsepower (bhp) (equivalent to 410 kilowatts (kW)), and rated standby electricity output of 350 kW. 40 CFR Subpart ZZZZ categorizes this engine generator as a New Stationary RICE Subject to Limited Requirements. (40 CFR 63 Subparts 63.6590(a)(2)(i) and (b)(1)(i)) The limited requirements are:

- Provide an Initial Notification in accordance with Subsection 63.6645(f) (40 CFR 63.6590(b)(1)); and
- Meet the definition of an Emergency Stationary RICE in Subsection 63.6675 by limiting operation of the engine generator set to up to 100 hours per year for maintenance checks and readiness testing, and for additional unlimited time for emergencies only, as specified in 40 CFR 60.4243(d).

40 CFR 60 Subpart IIII requires that the New BPF Emergency Generator:

- Be certified to the emission standards for new non-road CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 89.113. (40 CFR 60.4205(b)) For this engine, certification to U.S. EPA Tier 3 emissions standards is required (Table 1, 40 CFR 89.112);
- Use diesel fuel that meets the requirements of 40 CFR 80.510(a), including sulfur content less than or equal to 0.05% by weight (40 CFR 60.4207);
- Be operated and maintained in accordance with manufacturer's written instructions; (40 CFR 60.4211) and
- Have a non-resettable hour meter installed prior to engine startup to track compliance with the hours restriction in 40 CFR 60.4243(d), cited above. (40 CFR 60.4209)

No Initial Notification is required for emergency engines under 40 CFR 60 Subpart IIII. (40 CFR 60.4214(b))

The engine specifications, attached, show that the New BPF Emergency Generator is a U.S.-EPA-certified Tier 3 engine (40 CFR 89), and is in compliance with the emission standards of 40 CFR Part 60 Subpart IIII for CI engines.

In accordance with 40 CFR 63.6645(f), this letter serves as the **Initial Notification** to Florida Department of Environmental Protection (FDEP). The following information is provided to



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fulfill the requirements of the Initial Notification in 40 CFR 63 Subpart ZZZZ, as specified in 40 CFR 63.9(b)(2)(i) thru (v) and 40 CFR 63.6645(f).

(i) *The name and address of the owner or operator:*

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

(ii) *The address (i.e., physical location) of the affected source:*

Biosolids Pelletization Facility (BPF) (same address as above)

(iii) *An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date:*

This notification is required by 40 CFR 63 Subpart ZZZZ, Subsection 63.6590(b)(1). The compliances dates are:

- Requirements other than Initial Notification are applicable at start-up of the Emergency Stationary RICE;

Initial Notification is required within 120 days of start-up (40 CFR 63.9(b)(2)). The BPF, including the Emergency Stationary RICE, was started up on May 19, 2009. The Department was notified of the start-up by email and letters on April 22, 2009 and on May 28, 2009. This additional notification contains supplemental information required by Subpart ZZZZ.

- Notification is required within 120 days of start-up (40 CFR 63.9(b)(2)). The BPF, including the Emergency Stationary RICE, was started up on May 19, 2009. The Department was notified of the start-up by email and letters on April 22, 2009 and on May 28, 2009. This additional notification contains supplemental information required by Subpart ZZZZ.

(iv) *A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted:*

The affected source is the North County Regional Resource Recovery Facility (NCRRF) Site, containing a 2,000-ton-per-day municipal waste combustor plant, Class

Mr. Joe Kahn  
April 12, 2010  
Page 4

I and Class III landfills, and other solid waste management facilities, as described in Title V Air Operation Permit No. 0990234-013-AV, issued on December 12, 2008. The emission point subject to 40 CFR 63 Subpart ZZZZ is an Emergency Stationary RICE, Kohler Model 350REOZDD Nonroad 2 diesel fueled engine. The hazardous air pollutants emitted from internal combustion engines include PAHs, acetaldehyde, arsenic, benzene, beryllium compounds and formaldehyde; U.S. EPA has established emissions limits for the surrogates of carbon monoxide and hydrocarbons. (73 FR 13, January 18, 2008)

(v) *A statement of whether the affected source is a major source or an area source:*

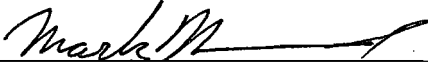
The NCRRF Site's municipal waste combustor plant is a major source of hydrogen chloride (HCl) emissions.

(f) *A statement that your stationary RICE has no additional requirements under 40 CFR 63 Subpart ZZZZ, and the basis:*

The New BPF Emergency Generator is subject only to the Initial Notification and hours restrictions requirements of this Rule, because it will operate exclusively as an emergency stationary RICE, has a site rating of more than 500 brake horsepower, and is located at a major source of HAP emissions. (40 CFR 63 Subparts 63.6590(a)(2)(i) and (b)(1)(i)) Although there are no additional requirements under this NESHAP, the BPF Emergency Generator is also subject to requirements under 40 CFR 60 Subpart III.

Owner/Responsible Official Certification

*I, the undersigned, am the responsible official as defined in Chapter 62-210.200, FAC. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made are true, accurate and complete.*

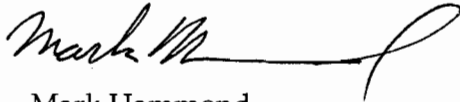
  
\_\_\_\_\_  
Mr. Mark Hammond  
Executive Director  
Solid Waste Authority

4/12/10  
Date

Should you have any comments or questions, please feel free to call me, or you may direct your questions to our consulting engineer, Camp Dresser & McKee, Inc. Attention: Cynthia Hibbard at 617-452-6000.

Mr. Joe Kahn  
April 12, 2010  
Page 5

Very truly yours,

A handwritten signature in black ink, appearing to read "Mark M." followed by a long, sweeping horizontal line that ends in a small loop.

Mark Hammond  
Executive Director

Enclosures

Cc: M. Morrison, SWA

Lennon Anderson, FDEP/Southeast

Ana Oquendo-Vazquez, US EPA, Region 4

Katy R. Forney, US EPA, Region 4

Barbara Friday, DEP BAR (for posting with US EPA, Region 4)

C. Hibbard, CDM/CAM

M. Hernandez, CDM/WPB

A. Barritt, CDM/WPB

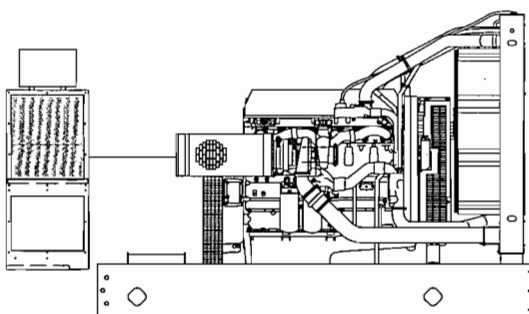
Mr. Joe Kahn  
April 12, 2010  
Page 6

Xc: Disha Shah, CDM/EDN



## Ratings Range

		60 Hz	
Standby:	kW	305-365	
	kVA	381-456	
Prime:	kW	275-330	
	kVA	344-413	



## Generator Set Ratings

Alternator	Voltage	Ph	Hz	150°C	130°C	125°C	105°C
				Rise Standby Rating kW/kVA	Rise Standby Rating kW/kVA	Rise Prime Rating kW/kVA	Rise Prime Rating kW/kVA
4M4019	120/208	3	60	355/444	350/438	325/406	325/406
	127/220	3	60	355/444	355/444	325/406	325/406
	139/240	3	60	355/444	355/444	325/406	325/406
	220/380	3	60	305/381	305/381	275/344	275/344
	240/416	3	60	355/444	350/438	325/406	325/406
277/480	3	60	355/444	355/444	325/406	325/406	
4M4021	120/208	3	60	360/450	360/450	325/406	325/406
	127/220	3	60	360/450	360/450	325/406	325/406
	139/240	3	60	360/450	360/450	325/406	325/406
	220/380	3	60	315/394	315/394	285/356	285/356
	240/416	3	60	360/450	360/450	325/406	325/406
277/480	3	60	360/450	360/450	325/406	325/406	
5M4027	120/208	3	60	365/456	365/456	330/413	330/413
	127/220	3	60	365/456	365/456	330/413	330/413
	139/240	3	60	360/450	360/450	325/406	325/406
	220/380	3	60	365/456	365/456	330/413	330/413
	240/416	3	60	365/456	365/456	330/413	330/413
277/480	3	60	360/450	360/450	325/406	325/406	
4M4158	220/380	3	60	360/450	360/450	325/406	325/406
5M4162	220/380	3	60	360/450	360/450	325/406	325/406
4M4266	347/600	3	60	360/450	360/450	325/406	325/406
5M4272	347/600	3	60	365/456	365/456	330/413	330/413

## Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The 60 Hz generator set offers a UL 2200 listing.
- The generator set complies with ISO 8528-5, Class G3, requirements for transient performance.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- The 60 Hz generator set engine is certified by the Environmental Protection Agency (EPA) to conform to Tier 3 nonroad emissions regulations.
- A one-year limited warranty covers all systems and components. Two-, five-, and ten-year extended warranties are also available.
- Alternator features:
  - The pilot-excited, permanent-magnet (PM) alternator provides superior short-circuit capability.
  - The brushless, rotating-field alternator has broadrange reconnectability.
- Other features:
  - Controllers are available for all applications. See controller features inside.
  - The low coolant level shutdown prevents overheating (standard on radiator models only).
  - Integral vibration isolation eliminates the need for under-unit vibration spring isolators.
  - An electronic, isochronous governor delivers precise frequency regulation.
  - Electronic engine controls manage the engine.

**RATINGS:** All three-phase units are rated at 0.8 power factor. **Standby Ratings:** Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. **Prime Power Ratings:** Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528/1, overload power in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. For limited running time and base load ratings, consult the factory. Obtain the technical information bulletin (TIB-101) on ratings guidelines for the complete ratings definitions. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. **GENERAL GUIDELINES FOR DERATION:** *Altitude:* Derate 1.5% per 305 m (1000 ft.) elevation above 183 m (600 ft.) up to a maximum elevation of 3660 m (12000 ft.). *Temperature:* Derate 1.0% per 5.5°C (10°F) temperature above 25°C (77°F). For radiator cooling system capacity, derate 1.4°C (2.5°F) per 305 m (1000 ft.) elevation above 183 m (600 ft.).

## Alternator Specifications

Specifications	Alternator
Type	4-Pole, Rotating Field
Exciter type	Brushless, Permanent-Magnet, Pilot Exciter
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1
Material	Class H, Synthetic, Nonhygroscopic
Temperature rise	130°C, 150°C Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Rotor balancing	125%
Voltage regulation, no-load to full-load (with 0.5% drift due to temp. variation)	3-Phase Sensing, ±0.25%
One-step load acceptance	100% of Rating
Unbalanced load capability	100% of Rated Standby Current
Peak motor starting kVA:	(35% dip for voltages below)
480 V	4M4019 (12 lead) 1350
480 V	4M4021 (12 lead) 1325
480 V	5M4027 (12 lead) 1550
380 V	4M4158 (4 lead) 1118
380 V	5M4162 (4 lead) 2100
600 V	4M4266 (4 lead) 1300
600 V	5M4272 (4 lead) 1750

- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.
- Self-ventilated and dripproof construction.
- Superior voltage waveform from two-thirds pitch windings and skewed stator.
- Digital solid-state, volts-per-hertz voltage regulator with ±0.25% no-load to full-load regulation.
- Brushless alternator with brushless pilot exciter for excellent load response.

## Application Data

### Engine

Engine Specifications	
Manufacturer	Detroit Diesel
Engine: model, type	S60, 4-Cycle Turbocharged, Charge Air-Cooled
Cylinder arrangement	6, Inline
Displacement, L (cu. in.)	14.0 (855)
Bore and stroke, mm (in.)	133 x 168 (5.24 x 6.61)
Compression ratio	16.0:1
Piston speed, m/min. (ft./min.)	604 (1980)
Main bearings: quantity, type	7, Precision Half-Shell
Rated rpm	1800
Max. power at rated rpm, kWm (BHP)	410 (550)
Cylinder head material	Cast Iron
Crankshaft material	Forged Steel
Valve material:	
Intake	Iron-Based Seat
Exhaust	Nickel-Based Seat
Governor: type, make/model	DDEC Electronic Control
Frequency regulation, no-load to full-load	Isochronous
Frequency regulation, steady state	±0.25%
Frequency	Fixed
Air cleaner type, all models	Dry

### Engine Electrical

Engine Electrical System	
Battery charging alternator:	
Ground (negative/positive)	Negative
Volts (DC)	24
Ampere rating	40
Starter motor rated voltage (DC)	24
Battery, recommended cold cranking amps (CCA):	
Qty., CCA rating each	Two, 950
Battery voltage (DC)	12

### Fuel

Fuel System	
Fuel supply line, min. ID, mm (in.)	13 (0.50)
Fuel return line, min. ID, mm (in.)	8 (0.31)
Max. lift, engine-driven fuel pump, m (ft.)	2.1 (6.8)
Max. fuel flow, Lph (gph)	335 (88.5)
Fuel prime pump	N/A
Fuel filter: quantity, type	2, Primary/Secondary
Recommended fuel	#2 Diesel

### Lubrication

Lubricating System	
Type	Full Pressure
Oil pan capacity, L (qt.)	30 (32)
Oil pan capacity with filter, L (qt.)	36 (38)
Oil filter: quantity, type	2, Cartridge
Oil cooler	Water-Cooled

### Exhaust

Exhaust System	
Exhaust flow at rated kW, m <sup>3</sup> /min. (cfm)	87.2 (3080)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	517 (963)
Maximum allowable back pressure, kPa (in. Hg)	10.2 (3.0)
Engine exhaust outlet size, mm (in.)	See ADV Drawing

## Application Data

### Cooling

#### Radiator System

Ambient temperature, °C (°F)	50 (122)
Engine jacket water capacity, L (gal.)	22.7 (6.0)
Radiator system capacity, including engine, L (gal.)	45.4 (12)
Engine jacket water flow, Lpm (gpm)	363 (96)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	131 (7445)
Heat rejected to air charge cooler at rated kW, dry exhaust, kW (Btu/min.)	86 (4900)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	965 (38)
Fan, kWm (HP)	22 (30)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H <sub>2</sub> O)	0.125 (0.5)

### Operation Requirements

#### Air Requirements

Radiator-cooled cooling air, m <sup>3</sup> /min. (scfm)*	561 (19800)
Combustion air, m <sup>3</sup> /min. (cfm)	33 (1160)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	88 (5024)
Alternator, kW (Btu/min.)	24 (1380)

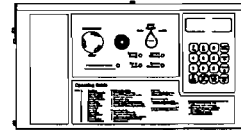
\* Air density = 1.20 kg/m<sup>3</sup> (0.075 lbm/ft<sup>3</sup>)

#### Fuel Consumption

Diesel, Lph (gph) at % load	Standby Rating
100%	102.2 (27.0)
75%	81.0 (21.4)
50%	55.3 (14.6)
25%	29.5 (7.8)

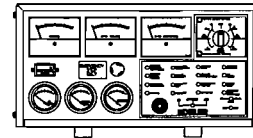
Diesel, Lph (gph) at % load	Prime Rating
100%	92.7 (24.5)
75%	71.9 (19.0)
50%	49.2 (13.0)
25%	26.5 (7.0)

## Controllers



#### Decision-Maker™ 550 Controller

Audiovisual annunciation with NFPA 110 Level 1 capability. Programmable microprocessor logic and digital display features. Alternator safeguard circuit protection. 12- or 24-volt engine electrical system capability. Remote start, remote annunciation, and remote communication options. Refer to G6-46 for additional controller features and accessories.



#### Decision-Maker™ 3+, 16-Light Controller

Audiovisual annunciation with NFPA 110 Level 1 capability. Microprocessor logic, AC meters, and engine gauge features. 12- or 24-volt engine electrical system capability. Remote start, prime power, and remote annunciation options. Refer to G6-30 for additional controller features and accessories.

## Standard Features

- Alternator Protection (standard with 550 controller)
- Battery Rack and Cables
- Electronic, Isochronous Governor
- Oil Drain Extension

## Available Accessories

### Enclosed Unit

- Sound Enclosure
- Weather Enclosure
- Weather Housing

### Open Unit

- Exhaust Silencer, Hospital (kit: PA-354905)
- Exhaust Silencer, Critical (kit: PA-354880)
- Flexible Exhaust Connector, Stainless Steel

### Cooling System

- Block Heater
- Radiator Duct Flange

### Fuel System

- Flexible Fuel Lines
- Fuel Pressure Gauge
- Fuel/Water Separator with Prime Feature
- Hand Primer Pump
- Subbase Fuel Tanks
- Subbase Fuel Tank with Day Tank

### Electrical System

- Battery
- Battery Charger, Equalize/Float Type
- Battery Heater

### Engine and Alternator

- Air Cleaner, Heavy Duty
- Air Cleaner Restriction Indicator
- Alternator Strip Heater
- Bus Bar Kits
- Crankcase Emission Canister
- Line Circuit Breaker (NEMA1 enclosure)
- Line Circuit Breaker with Shunt Trip (NEMA1 enclosure)
- Optional Alternators
- Rated Power Factor Testing
- Safeguard Breaker (not available with 550 controller)
- Skid End Caps

## Paralleling System

- Reactive Droop Compensator
- Voltage Regulator Relocation Kit

## Maintenance and Literature

- General Maintenance Literature Kit
- Maintenance Kit (includes air, oil, and fuel filters)
- NFPA 110 Literature
- Overhaul Literature Kit
- Production Literature Kit

## Controller

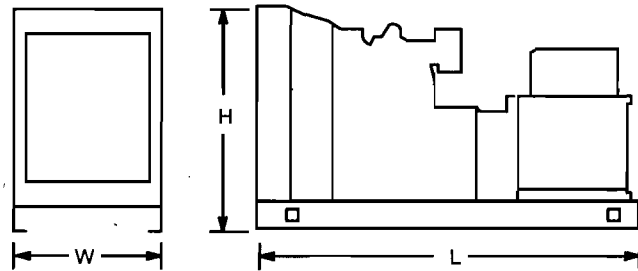
- Common Failure Relay Kit
- Communications Products and PC Software (550 controller only)
- Customer Connection Kit
- Dry Contact Kit (isolated alarm)
- Engine Prealarm Sender Kit
- Remote Annunciator Panel
- Remote Audiovisual Alarm Panel
- Remote Emergency Stop Kit
- Remote Mounting Cable
- Run Relay Kit

## Miscellaneous Accessories

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

## Dimensions and Weights

Overall Size, L x W x H, mm (in.): 3680 x 1325 x 2008  
 (144.9 x 52.2 x 79.0)  
 Weight (radiator model), wet, kg (lb.): 3266 (7200)



NOTE: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

**DISTRIBUTED BY:**



**Sheplak, Scott**

- file -

**From:** Holtom, Jonathan  
**Sent:** Tuesday, November 24, 2009 1:30 PM  
**To:** Friday, Barbara; Sheplak, Scott  
**Cc:** Linero, Alvaro; Walker, Elizabeth (AIR); Koerner, Jeff  
**Subject:** RE: A new application was submitted in EPSAP on FDEP

This one goes to Scott for processing.

Jon

-----Original Message-----

**From:** Koerner, Jeff  
**Sent:** Tuesday, November 24, 2009 12:20 PM  
**To:** Holtom, Jonathan  
**Cc:** Linero, Alvaro; Walker, Elizabeth (AIR)  
**Subject:** FW: A new application was submitted in EPSAP on FDEP

I'm assuming you assigned this (SWA) to Title V staff.

I will assign the Gulf SCR project to someone in NSR.

Jeff

-----Original Message-----

**From:** EPSAP@dbprod.dep.state.fl.us [mailto:EPSAP@dbprod.dep.state.fl.us]  
**Sent:** Thursday, November 19, 2009 9:32 AM  
**To:** Walker, Elizabeth (AIR); Holtom, Jonathan; Friday, Barbara; Koerner, Jeff; Linero, Alvaro; Livingston, Sylvia  
**Subject:** A new application was submitted in EPSAP on FDEP

A new Long Form application was submitted in EPSAP for the following facility:

Application Number: 2471-1  
Facility ID: 0990234  
Facility Name: SOLID WASTE AUTHORITY OF PBC Site Name: SOLID WASTE AUTHORITY OF PBC/NCRRF  
County: Palm Beach  
Facility Office: FDEP Bureau of Air Regulation

Application Purpose: Title V air operation permit revision.

Application Comment: Request Title V Operations Permit Revision to include the operation of the Biosolids Pelletization Facility (BPF) at the North County Resource Recovery Facility Site. The BPF was constructed under FDEP Permit Number 0990234-006-AC and PSD-FL-108F.

Uploaded Electronic Attachments? Yes

Sending Hard-copy Attachments? No

Emissions Units included in the Scope of Application:

EU 10: AV02

EU 11: AV02

EU 12: AV02

EU 13: AV02

EU 14: AV02

EU 15: AV02

EU 16: AV02

Professional Engineer: MANUEL HERNANDEZ, 561-689-3336, [hernandezmj@cdm.com](mailto:hernandezmj@cdm.com)

Primary Responsible Official: MARK HAMMOND, 561-640-4000 (Ext. 4215), [mhammond@swa.org](mailto:mhammond@swa.org)

At your earliest convenience, please log-in to the EPSAP application located at [http://appprod.dep.state.fl.us/epsap\\_eng/default.asp](http://appprod.dep.state.fl.us/epsap_eng/default.asp) to begin the application review process.



1601 Belvedere Road, Suite 400 East  
West Palm Beach, Florida 33406  
tel: +1 561 689-3336  
fax: +1 561 689-9713

RECEIVED

APR 23 2010

BUREAU OF  
AIR REGULATION

April 22, 2010

re: bayhouse  
test results

Mr. Scott Sheplak, P.E.  
Florida Department of Environmental Protection  
Title V Section  
Mail Station No. 5505  
2600 Blair Stone Road  
Tallahassee, Florida 32399

Subject: Solid Waste Authority of Palm Beach County  
Biosolids Pelletization Facility  
Title V Air Operation Permit Revision Application  
Additional Information, File No. 0990234-016-AV

Dear Mr. Sheplak:

CDM is submitting a copy of Appendix B of the Compliance Emissions Testing Report prepared by CK Environmental, Inc. for the Biosolids Pelletization Facility as supplemental information to CDM's response letter dated April 13, 2010. Appendix B provides copies of the Field Data Sheets taken during the compliance testing.

If you need further clarification, feel free to contact me at 561-689-3336.

Very truly yours,

Manuel J. Hernandez, P.E.  
Project Manager  
Camp Dresser & McKee Inc.

MJH/tof

Enclosures

File: 2678-191





Mr. Scott Sheplak  
April 22, 2010  
Page 2

cc: Mr. Mark Hammond, SWA  
Mr. Mark McLean, SWA  
Ms. Mary Beth Morrison, SWA  
Ms. Amber Barritt, P.E., CDM



**APPENDIX B**  
**FIELD DATA SHEETS**



**FIELD DATA SHEETS**

TRAIN # 1

CYCLONIC DATA

CK Environmental, Inc.

EPA Method 5 / 101A

Run No DIAGNOSTIC RUN 1

Phone: (781 828-5200)

Fax: (781 828-5380)

Field Data Sheet

Page 1 of 1

Client	<u>NEFCO</u>	Pollutant	<u>PM / Mercury</u>	Nozzle No. & Dia.	<u>0.311</u>	Pitot Coefficient	<u>0.84</u>
Plant	<u>SWA of Palm Beach</u>	Duct Dia.	<u>36"</u>	Probe ID.		Orifice Delta H @	<u>1.9941</u>
Facility	<u>Biosolids Processing</u>	Test Duration	<u>120 min</u>	Probe Heat Set	<u>250 °F ± 25 °F</u>	Test Time	Start <u>1353</u>
City, State	<u>West Palm Beach, FL</u>	Min. Per Pt.	<u>10</u>	Filter Temp. Set	<u>250 °F ± 25 °F</u>	Stop	<u>1453 1510</u>
Test Date	<u>09/09/09</u>	Amb Temp		Assumed % H <sub>2</sub> O		Train Leak Check	Start <u>0.000 CFM @ 15"</u> in. Hg.
Location	<u>Dryer 1 / 2 Stack</u>	Bar. Press		Nomograph K Factor	<u>5.6</u>	Pitot Leak Check	Final <u>0.000 CFM @ 10"</u> in. Hg.
Testers	<u>JD + BK</u>	Filter No.		Dry Gas Meter Y	<u>0.9976</u>	Start	<u>OK</u>
Meter Box ID	<u>ES # 1</u>					Final	<u>OK</u>

K → 5.8

Stack Static Pressure:		Time min.	Velocity Delta P	Delta H	Gas Vol. R <sup>3</sup>	Temp Prb F	T stack F	Dry Gas Meter		Filter Box F	Last Imp F	Aux F	Pump Vac Hg"
Port	Point							Inlet	Outlet				
A1	1	7	28	1.56	511.940	253	262	85	86	252	64	—	4
	2	10	30	1.68	518.8	252	261	85	84	252	65	—	4
	3	20	32	1.79	526.6	253	273	87	85	251	62	—	4
	4	30	40	2.24	533.4	251	274	92	86	250	61	—	5
	5	40	44	2.46	546.4	253	259	94	87	250	60	—	4
	6	50	38	2.12	548.7	252	260	95	88	249	63	—	5
		END			557.665								
B1													
2													
3													
4													
5			ΔP	Degrees	(522.9)		OMIT						
6		1	35	3	(524.3)								
		2	37	3									
		3	41	6									
		4	40	5									
		5	38	6	315								
		6	32	6									
		1	29	8	305								
		2	37	3	249								
		3	42	4	271								
		4	45	6	289								
		5	41	5	291								
		6	32	5	304								

Avg sqrt dP/Avg/ or Total:

Imp. No.	1	2	3	4	TOTAL
Final vol/wt.	7760		534.0	867.3	
Init. vol/wt.	50	100	100	842.7	
Catch					

712.3 KMNO4/H2SO4 510.0 Si Gel

Orsat Analysis

EPA Method 3	
O <sub>2</sub>	
CO <sub>2</sub>	

Field Calculations

As = \_\_\_\_\_ ft<sup>2</sup>  
 Tstd = 528 R                      Pstd = 29.92 in. Hg  
 Ts = 460 + Tstk = \_\_\_\_\_ R  
 Ps = Pbar + (Pg/13.6) = \_\_\_\_\_ in. Hg  
 Vs = (85.49) x Cp x sqrt(Delta P) x sqrt(Ts/(Ps x MW))  
 = \_\_\_\_\_ ft/sec  
 Qa = 60 x Vs x As = \_\_\_\_\_ ACFM  
 Qstd = Qa x (1-Bws) x (Tstd/Ts) x (Ps/Pstd)  
 = \_\_\_\_\_ DSCFM

Notes:

Quality Control Check:

Completeness \_\_\_\_\_ Legibility \_\_\_\_\_ Accuracy \_\_\_\_\_ Specifications \_\_\_\_\_ Reasonableness \_\_\_\_\_

**\* USED FOR CYCLONIC FLOW SHEET**

CK Environmental, Inc.

EPA Method 5 / 101A

Run No Unit # 1 / Run # 1

Phone: (781 828-5200)

Fax: (781 828-5380)

Field Data Sheet

Page 1 of 1

Client	<u>NEFCO</u>	Pollutant	<u>PM / Mercury</u>	Nozzle No. & Dia.	<u>40442 (5/16 = .313)</u>	Pitot Coefficient	<u>0.84</u>
Plant	<u>SWA of Palm Beach</u>	Duct Dia.	<u>36"</u>	Probe ID.	<u>MS-46C</u>	Orifice Delta H @	<u>1.9941</u>
Facility	<u>Biosolids Processing</u>	Test Duration	<u>120 min</u>	Probe Heat Set	<u>250 °F</u>	Test Time	Start <u>0912</u>
City, State	<u>West Palm Beach, FL</u>	Min. Per Pt.	<u>10</u>	Filter Temp. Set	<u>250 °F</u>	Stop	<u>1016</u>
Test Date	<u>09/10/09</u>	Amb Temp		Assumed % H <sub>2</sub> O		Train Leak Check	Start <u>0.001</u> CFM @ <u>14</u> in. Hg.
Location	<u>Dryer 1 / 2 Stack</u>	Bar. Press.	<u>30.0</u>	Nomograph K Factor	<u>6.0</u>	Pitot Leak Check	Final <u>0.000</u> CFM @ <u>10</u> in. Hg.
Testers	<u>JD + BK</u>	Filter No.	<u>9081240</u>	Dry Gas Meter Y	<u>0.9976</u>	Start	<input checked="" type="checkbox"/> OK
Meter Box ID	<u>ES # 1</u>					Final	<input checked="" type="checkbox"/> OK

Stack Static Pressure:		<u>-3.1</u>		Delta H	Gas Vol. ft <sup>3</sup>	Temp Prb F	T stack F	Dry Gas Meter		Filter Box F	Last Imp F	Aux F	Pump Vac Hg"
Port	Point	Time min.	Velocity Delta P					Inlet	Outlet				
A1	1	0	.39	2.34	557.785	250	249	86	84	254	64		6
	2	10	.39	2.34	565.5	251	264	88	85	251	65		6
	3	20	.44	2.64	573.8	249	290	89	84	250	62		7
	4	30	.48	2.88	582.2	249	310	91	85	250	64		7
	5	40	.40	2.40	590.7	252	276	94	87	250	65		6
	6	50	.37	2.22	599.1	249	278	98	90	249	65		6
PBAR		CHAN 66			606.9								
B1	1	60	.38	2.28	608.3	252	264	100	93	250	62		6
	2	70	.43	2.58	616.3	248	285	101	95	247	66		6
	3	80	.48	2.88	624.2	257	298	104	97	250	65		6
	4	90	.40	2.40	633.4	249	302	105	100	250	66		6
	5	100	.41	2.46	642.2	249	284	107	103	249	64		6
	6	110	.34	2.04	650.3	250	236	107	103	250	65		6
END		120			668.255								

Avg sqrt dP/Avg/ or Total:

Impinger Catch:				
Imp. No.	1	2	3	4
Final vol/wt.	180	172	128	857.2
Init. vol/wt.	50	100	100	832.5
Catch				
	KMNO4/H2SO4			Si Gel

Orsat Analysis	
EPA Method 3	
O <sub>2</sub>	
CO <sub>2</sub>	

Field Calculations  
 As = \_\_\_\_\_ ft<sup>2</sup>  
 Tstd = 528 R Pstd = 29.92 in. Hg  
 Ts = 460 + Tstk = \_\_\_\_\_ R  
 Ps = Pbar + (Pg/13.6) = \_\_\_\_\_ in. Hg  
 Vs = (85.49) x Cp x sqrt(Delta P) x sqrt(Ts/(Ps x MW))  
 = \_\_\_\_\_ ft/sec  
 Qa = 60 x Vs x As = \_\_\_\_\_ ACFM  
 Qstd = Qa x (1-Bws) x (Tstd/Ts) x (Ps/Pstd)  
 = \_\_\_\_\_ DSCFM

Notes:

Quality Control Check:

Completeness \_\_\_\_\_ Legibility \_\_\_\_\_ Accuracy \_\_\_\_\_ Specifications \_\_\_\_\_ Reasonableness \_\_\_\_\_



CK Environmental, Inc.

EPA Method 5 / 101A

Run No Unit #1 / Run #2

Phone: (781 828-5200)

Fax: (781 828-5380)

Field Data Sheet

Page 1 of 1

Client	<u>NEFCO</u>	Pollutant	<u>PM / Mercury</u>	Nozzle No. & Dia.	<u>46442</u>	Pitot Coefficient	<u>0.84</u>
Plant	<u>SWA of Palm Beach</u>	Duct Dia.	<u>36"</u>	Probe ID.	<u>M5-466</u>	Orifice Delta H @	<u>1.9941</u>
Facility	<u>Biosolids Processing</u>	Test Duration	<u>120 min</u>	Probe Heat Set	<u>250 °F</u>	Test Time	Start <u>1:00</u>
City, State	<u>West Palm Beach, FL</u>	Min. Per Pt.	<u>10</u>	Filter Temp. Set	<u>250 °F</u>	Stop	<u>13:05</u>
Test Date	<u>9/10/09</u>	Amb Temp	<u>85</u>	Assumed % H <sub>2</sub> O		Train Leak Check	Start <u>0.600</u> CFM@ <u>15</u> in. Hg.
Location	<u>Dryer 1 / 2 Stack</u>	Bar. Press.		Nomograph K Factor	<u>6.2</u>	Pitot Leak Check	Final <u>0.0</u> CFM@ <u>7</u> in. Hg.
Testers	<u>JD + BK</u>	Filter No.	<u>9081231</u>	Dry Gas Meter Y	<u>0.9926</u>	Start	<input checked="" type="checkbox"/> OK
Meter Box ID	<u>E5 #1</u>					Final	<input checked="" type="checkbox"/> OK

Stack Static Pressure:														
Port	Point	Time min.	Velocity Delta P	Delta H	Gas Vol. ft <sup>3</sup>	Temp Prb F	T stack F	Dry Gas Meter		Filter Box F	Last Imp F	Aux F	Pump Vac Hg"	
				<u>-3.5</u>										
A1	1	6	.36	2.16	658.600	248	267	106	102	244	60	—	5	
	2	10	.46	2.76	666.3	251	313	111	106	251	64	—	5	
	3	20	.40	2.40	675.6	252	273	110	105	250	65	—	5	
	4	30	.42	2.60	683.4	250	276	111	107	251	65	—	5	
	5	40	.40	2.40	693.1	250	315	111	107	250	66	—	5	
	6	50	.33	2.05	700.1	250	267	112	108	249	64	—	5	
	PC	60			709.1									
B1	1	60	.39	2.35	710.1	248	249	106	105	250	62	—	5	
	2	70	.40	2.40	719.6	251	268	104	103	251	63	—	5	
	3	80	.42	2.60	726.5	251	271	105	107	251	64	—	5	
	4	90	.44	2.73	734.6	250	273	102	100	249	66	—	5	
	5	100	.36	2.16	744.3	250	287	96	96	251	65	—	5	
	6	110	.40	2.40	751.3	249	272	94	94	249	64	—	5	
	END	120			761.080									

Avg sqrt dP/Avg/ or Total:

Impinger Catch:

Imp. No.	1	2	3	4	TOTAL
Final vol/wt.	<u>211</u>	<u>156</u>	<u>108</u>	<u>834.1</u>	
Init. vol/wt.	50	100	100	<u>803.5</u>	
Catch					
	KMNO4/H2SO4			Si Gel	

Notes:

Quality Control Check:

Completeness \_\_\_\_\_ Legibility \_\_\_\_\_ Accuracy \_\_\_\_\_ Specifications \_\_\_\_\_ Reasonableness \_\_\_\_\_

Orsat Analysis

EPA Method 3

O<sub>2</sub> \_\_\_\_\_  
CO<sub>2</sub> \_\_\_\_\_

Field Calculations

As = \_\_\_\_\_ ft<sup>2</sup>  
 Tstd = 528 R      Pstd = 29.92 in. Hg  
 Ts = 460 + Tstk = \_\_\_\_\_ R  
 Ps = Pbar + (Pg/13.6) = \_\_\_\_\_ in. Hg  
 Vs = (85.49) x Cp x sqrt(Delta P) x sqrt(Ts/(Ps x MW))  
 = \_\_\_\_\_ ft/sec  
 Qa = 60 x Vs x As = \_\_\_\_\_ ACFM  
 Qstd = Qa x (1-Bws) x (Tstd/Ts) x (Ps/Pstd)  
 = \_\_\_\_\_ DSCFM

Client	<u>NECO 8490</u>	Pollutant	<u>P.M +Hg</u>	Nozzle No. & Dia.	<u>46442 = .311</u>	Pilot Coefficient	<u>0.84</u>
Plant	<u>H1</u>	Duct Dia.	<u>36"</u>	Probe ID.	<u>M5-46C</u>	Orifice Delta H @	<u>1.9941</u>
Facility		Test Duration	<u>120 min</u>	Probe Heat Set	<u>250 °F</u>	Test Time	Start <u>1445</u>
City, State	<u>WEST PALM</u>	Min. Per Pt.	<u>10 min</u>	Filter Temp. Set	<u>250 °F</u>	Stop	<u>1650</u>
Test Date	<u>09/10/09</u>	Amb Temp	<u>85</u>	Assumed % H <sub>2</sub> O		Train Leak Check	Start <u>0.000</u> CFM@ <u>15</u> in. Hg.
Location	<u>Unit #1</u>	Bar. Press.		Nomograph K Factor	<u>6.4</u>		Final <u>0.000</u> CFM@ <u>10</u> in. Hg.
Testers	<u>JDT/BK</u>	Filter No.	<u>9081238</u>	Dry Gas Meter Y	<u>0.9976</u>	Pilot Leak Check	Start <input checked="" type="checkbox"/> OK
Meter Box ID	<u>ES#1</u>					(>3" WC)	Final <input checked="" type="checkbox"/> OK

Port	Point	Time min.	Velocity Delta P	Delta H	Gas Vol. ft <sup>3</sup>	Temp Prb F	T stack F	Dry Gas Meter		Filter Box F	Last Imp F	Aux F	Pump Vac Hg"
								Inlet	Outlet				
A	1	0	.39	2.42	761.650	248	263	84	83	251	63		4
	2	10	.42	2.68	768.2	244	294	96	93	247	65		6
	3	20	.43	2.75	777.2	251	311	98	94	248	64		6
	4	30	.37	2.36	785.9	252	283	100	96	252	64		6
	5	40	.44	2.87	795.4	249	294	98	96	249	63		7
	6	50	.39	2.42	802.1	251	287	96	93	251	64		6
	PC	60			812.0								
B	1	60	.39	2.42	812.4	241	263	94	92	251	66		5
	2	70	.38	2.49	820.5	248	277	93	92	250	65		6
	3	80	.42	2.68	828.0	255	268	93	91	250	64		6
	4	90	.40	2.53	839.3	246	283	94	91	249	66		6
	5	100	.41	2.58	849.7	248	290	94	91	247	66		6
	6	110	.40	2.53	854.4	248	293	94	91	250	66		6
	FND	120			861.830								

Avg sqrt dP/Avg/ or Total:

Imp. No.	1	2	3	4	TOTAL
Final vol/wt.	<u>126</u>	<u>174</u>	<u>130</u>	<u>744.7</u>	
Init. vol/wt.	<u>50.100</u>	<u>100</u>	<u>100</u>	<u>701.7</u>	
Catch					

H2O2/HNO3      Empty      Si Gel

Notes:

Quality Control Check:

Orsat Analysis

EPA Method 3

O <sub>2</sub>	
CO <sub>2</sub>	

Field Calculations

As = \_\_\_\_\_ ft<sup>2</sup>  
 Tstd = 528 R      Pstd = 29.92 in. Hg  
 Ts = 460 + Tstk = \_\_\_\_\_ R  
 Ps = Pbar + (Pg/13.6) = \_\_\_\_\_ in. Hg  
 Vs = (85.49) x Cp x sqrt(Delta P) x sqrt(Ts/(Ps x MW))  
 = \_\_\_\_\_ ft/sec  
 Qa = 60 x Vs x As = \_\_\_\_\_ ACFM  
 Qstd = Qa x (1-Bws) x (Tstd/Ts) x (Ps/Pstd)  
 = \_\_\_\_\_ DSCFM

# CK Environmental Inc.

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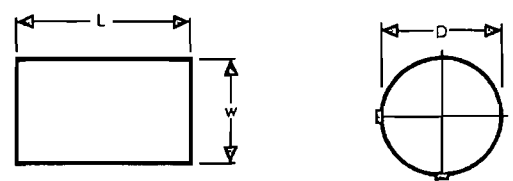
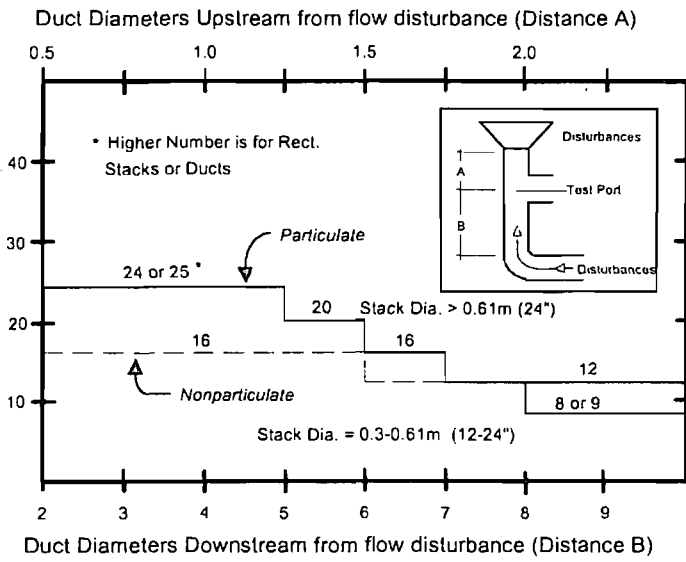
# EPA Method 1

Sample Velocity Traverses  
 for Stationary Sources

Client 3490 NEFCO  
 Plant NORTH COUNTY RES REC  
 City, State SWA PALM BEACH COUNTY, FLA.  
 Facility SLUDGE DRYER  
 Test location # 1 + 2  
 Test Date 9/10-11/03

Diameter Upstream of Disturbance (A) ≈ 104'  
 Diameter Downstream of Disturbance (B) ≈ 22'  
 Diameter of Stack (D) 3'  
 Total No. of Traverse Points Required 12  
 Number of Ports 2  
 Traverse Points per Port 6  
 Traverse (Horizontal or Vertical) HO-12

### Minimum Number of Traverse Points for Particulate and Nonparticulate Traverses



$$Deq = \frac{2LW}{L+W} = \text{---}$$

### Cross-Sectional Layout for Rectangular Stacks

Total Traverse 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	(Percent of stack diameter from inside wall to traverse point)				
	No. of Traverse Points on a Dia.				
	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

No.	Distance from wall (in.)	Port Depth (in.)	Total Distance (in.)
1	1.6		
2	5.3		
3	10.7		
4	25.3		
5	30.7		
6	34.4		
7			
8			
9			
10			
11			
12			

### Quality Control Check:

Completeness \_\_\_\_\_ Legibility \_\_\_\_\_ Accuracy \_\_\_\_\_ Specifications \_\_\_\_\_ Reasonableness \_\_\_\_\_



### ANALYZER CALIBRATION SHEET

PLANT: Norco - SWA  
 TEST LOCATION: UNIT #1  
 FUEL: LFG  
 LOAD: \_\_\_\_\_

DATE: 7/10/07  
 OPERATOR: M. KELLEY

GAS	RANGE	CYLINDER VALUE	ANALYZER RESPONSE	ABSOLUTE DIFFERENCE	ANALYZER CAL. ERROR
O <sub>2</sub>	ZERO	0.0	0.2	0.2	0.8
	MID	9.97	10.2	0.2	0.8
	HIGH	19.97	19.9	0.1	0.4
CO <sub>2</sub>	ZERO	0.0	0.0	0.0	0.0
	MID	10.16	9.9	0.3	1.5
	HIGH	19.91	19.8	0.1	0.5
CO	ZERO	0.0	0.0	0.0	0.0
	MID	45.3	45.6	0.3	0.3
	HIGH	94.9	95.1	0.2	0.2
SO <sub>2</sub>	ZERO	0.0	0.0	0.0	0.0
	MID	25.3	25.5	0.2	0.7
	HIGH	44.8	45.0	0.2	0.4
NO <sub>x</sub>	ZERO	0.0	0.0	0.0	0.0
	MID	45.1	45.5	0.4	0.8
	HIGH	95.4	96.1	0.7	1.4

ANALYZER CALIBRATION ERROR (%) = [(ANALYZER RESPONSE - CYLINDER VALUE) / HIGH CYLINDER VALUE] \* 100

ERROR MUST NOT EXCEED 2%

STARTED GAS @ 0615

Quality Control Check: Completeness \_\_\_\_\_ Legibility \_\_\_\_\_ Accuracy \_\_\_\_\_ Specifications \_\_\_\_\_ Reasonableness \_\_\_\_\_

START SYS CAL @ 06:59



**SYSTEM CALIBRATION SHEET**

PLANT: NEFCO - SWA DATE: 9/10/09  
 TEST LOCATION: UNIT #1 OPERATOR: Mikuley  
 FUEL: LFG SYSTEM RESPONSE TIME: 2 min  
 LOAD: ~ 14 tons/hr

		O <sub>2</sub>		CO <sub>2</sub>		CO		SO <sub>2</sub>		NO <sub>x</sub>	
		RANGE: ZERO	SPAN	RANGE: ZERO	SPAN	RANGE: ZERO	SPAN	RANGE: ZERO	SPAN	RANGE: ZERO	SPAN
RUN: <u>1</u> START TIME: <u>08:12</u> END TIME: <u>10:15</u>	ANALYZER CAL RESPONSE	0.2	10.2	0.0	9.9	0.0	45.6	0.0	25.5	0.0	45.5
	INITIAL SYSTEM CAL RESPONSE	0.3	9.9	0.0	9.8	0.3	45.1	0.4	25.0	0.9	44.0
	SYSTEM BIAS	0.4	1.2	0.0	0.5	0.3	1.5	2.8	1.0	0.9	1.5
	FINAL SYSTEM CAL RESPONSE	0.3	9.9	0.1	10.1	1.1	45.3	0.8	24.0	1.3	43.6
	SYSTEM BIAS	0.4	1.2	0.5	1.0	1.1	0.3	1.6	3.0	1.3	1.9
	SYSTEM DRIFT	0.0	0.0	0.5	1.5	0.8	0.2	1.2	2.0	0.4	0.4
NON CAL. CORR. AVERAGE		10.96		8.43		15.0		16.17		38.98	
RUN: <u>2</u> START TIME: <u>11:00</u> END TIME: <u>13:05</u>	INITIAL SYSTEM CAL RESPONSE	0.3	9.9	0.1	10.1	1.1	45.3	0.8	24.0	1.3	43.6
	SYSTEM BIAS	0.4	1.2	0.5	1.0	1.1	0.3	1.6	3.0	1.3	1.9
	FINAL SYSTEM CAL RESPONSE	0.3	9.9	0.1	10.1	1.1	44.9	1.5	24.6	1.3	43.6
	SYSTEM BIAS	0.4	1.2	0.5	1.0	1.1	1.4	3.0	1.8	1.3	1.9
	SYSTEM DRIFT	0.0	0.0	0.0	0.0	0.0	0.8	1.4	1.2	0.0	0.0
	NON CAL. CORR. AVERAGE		10.43		8.95		14.33		19.90		50.15
RUN: <u>3</u> START TIME: <u>14:45</u> END TIME: <u>16:50</u>	INITIAL SYSTEM CAL RESPONSE	0.3	9.9	0.1	10.1	1.1	44.9	1.5	24.6	1.3	43.6
	SYSTEM BIAS	0.4	1.2	0.5	1.0	1.1	1.4	3.0	1.8	1.3	1.9
	FINAL SYSTEM CAL RESPONSE	0.3	9.9	0.1	10.1	0.4	45.1	1.6	24.8	0.3	43.7
	SYSTEM BIAS										
	SYSTEM DRIFT										
	NON CAL. CORR. AVERAGE		10.55		8.78		17.91		9.85		48.4

SYSTEM BIAS = ((SYSTEM RESPONSE - ANALYZER RESPONSE) / HIGH CYLINDER VALUE) \* 100

ERROR MUST NOT EXCEED 5%

SYSTEM DRIFT = ((INITIAL SYSTEM RESPONSE - FINAL SYSTEM RESPONSE) / HIGH CYLINDER VALUE) \* 100

ERROR MUST NOT EXCEED 3%

Quality Control Check: Completeness \_\_\_\_\_ Legibility \_\_\_\_\_ Accuracy \_\_\_\_\_ Specifications \_\_\_\_\_ Reasonableness \_\_\_\_\_



METHOD 25A DATA SHEET

PLANT: NEFLCO / SWA  
 TEST LOCATION: UNIT #1  
 LOAD: ≈ 14 TONS / HR

DATE: 9/10/09  
 OPERATOR: M. Kelley  
 RESPONSE TIME: \_\_\_\_\_

CALIBRATION ERROR TEST					
TEST AREA	CALIBRATION GAS LEVEL (% SPAN)	CYLINDER CONCENTRATION	ACTUAL RESPONSE	PREDICTED RESPONSE	CALIBRATION ERROR
THC INLET	ZERO	0.0	0.0		
	LOW (25-35%)	16.13	15.4		
	MID (45-55%)	30.3	29.8		
	HIGH (80-90%)	49.7	48.9		
	MEASUREMENT SPAN =	SLOPE =	10.06 CH <sub>4</sub> C <sub>2</sub> H <sub>6</sub>	10.1	
THC OUTLET 1.018	ZERO	0.0	0.0		
	LOW (25-35%)	16.13	17.0	16.4	3.7
	MID (45-55%)	30.3	<del>29.8</del> 30.5	30.8	1.0
	HIGH (80-90%)	49.7	50.6		
	MEASUREMENT SPAN =	SLOPE =	10.06 CH <sub>4</sub> C <sub>2</sub> H <sub>6</sub>	10.4	

CALIBRATION ERROR = LESS THAN 5% OF THE RESPECTIVE CYLINDER CONCENTRATION

FORMULAS:

SLOPE =	$\frac{\text{HIGH LEVEL CAL GAS ACTUAL RESPONSE} - \text{ZERO GAS ACTUAL RESPONSE}}{\text{HIGH LEVEL CAL GAS CYLINDER CONCENTRATION}}$
PREDICTED RESPONSE =	$\text{SLOPE} \times \text{CYLINDER CONCENTRATION}$
CALIBRATION ERROR =	$\frac{100 \times (\text{ACTUAL RESPONSE} - \text{PREDICTED RESPONSE})}{\text{CYLINDER CONCENTRATION}}$

- INLET #'s TOO LOW TO ACHIEVE 98% DESTRUCTION

CALIBRATION DRIFT TEST									
TEST AREA	CE TEST ACTUAL RESPONSE	RUN 1		RUN 2		RUN 3		SPARE	
		RESPONSE	DRIFT	RESPONSE	DRIFT	RESPONSE	DRIFT	RESPONSE	DRIFT
THC INLET									
THC OUTLET		0.2		0.4		0.2			
		17.3		16.7		16.9			

CALIBRATION DRIFT = LESS THAN 3% OF THE MEASUREMENT SPAN

CALIBRATION DRIFT =	$\frac{100 \times (\text{CAL ERROR TEST ACTUAL RESPONSE} - \text{CAL DRIFT TEST RESPONSE})}{\text{MEASUREMENT SPAN}}$
---------------------	---

RUN AVERAGES	RUN 1	RUN 2	RUN 3	SPARE
RUN TIME:	08:12 - 10:15	11:00 - 13:05	14:45 - 16:50	
INLET:				
OUTLET:	9.88	11.21	11.19	
DE %:				

Run 1 CH <sub>4</sub> C <sub>2</sub> H <sub>6</sub>	9.5	9.5	10.1
	0.0	0.0	



**OPACITY FIELD DATA SHEETS**

TRAIN # 1

**METHOD 9 - VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES - RECORDS**

**Figure 9-1. Record of visual determination of opacity.**

Company <u>NECO/SWA</u>				
Location <u>7501 NORTH SOG ROAD</u>				
Test No. <u>1-1 ODOR CONTROL SURVEY</u>				
Date <u>SEPT. 10, 2009</u>				
Type of Facility <u>BIO SOLIDS PELLETTIZATION</u>				
Control Devices				
Hours of Observation <u>8:45 - 9:45</u>				
Observer <u>FRANCIS K. MORLU</u>				
Observer Certification Date <u>8/12/09</u>	Observer Affiliation <u>SFES</u>			
Points of Emissions <u>EXIT OF STACK</u>	Height of Discharge Point <u>1</u>			
	Initial	Final		
CLOCK TIME	<u>8:45 AM</u>	<u>9:45 AM</u>		
OBSERVATION LOCATION				
Distance to Discharge	<u>600 FT</u>	<u>600 FT</u>		
Direction from Discharge	<u>296</u>	<u>296</u>		
Height of Observation Point	<u>50 FT</u>	<u>50 FT</u>		
BACKGROUND DESCRIPTION (Vegetation, Sky, etc.)	<u>SKY</u>	<u>SKY</u>		
WEATHER CONDITIONS				
Wind Direction	<u>NE</u>	<u>NE</u>		
Wind Speed	<u>0-5</u>	<u>0-5</u>		
Ambient Temperature	<u>80</u>	<u>82</u>		
SKY CONDITIONS (clear, overcast, %clouds, etc.)	<u>OVERCAST</u>	<u>OVERCAST</u>		
PLUME DESCRIPTION				
Color	<u>N/A</u>	<u>N/A</u>		
Distance Visible	<u>N/A</u>	<u>N/A</u>		
OTHER INFORMATION				
<b>SUMMARY OF AVERAGE OPACITY</b>				
Set Number	Time		Opacity	
	Start - End		Sum	Average
	<u>8:45 to 9:45</u>		<u>0</u>	<u>0</u>
Readings ranged from <u>0</u> to <u>0</u> % opacity.				
The source was/was not in compliance with _____ at the time evaluation was made.				

*FRANCIS K. MORLU*



Diagram

**From NSPS Method 9:**

**2. PROCEDURES**

The observer qualified in accordance with Section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

**2.1 Position.** The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and,

when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

**2.2 Field Records.** The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on a field data sheet (Figure 9-1). The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

**2.3 Observations.** Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals.

**2.3.1 Attached Steam Plumes.** When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

**2.3.2 Detached Steam Plume.** When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

**2.4 Recording Observations.** Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on an observational record sheet. (See Figure 9-2 for an example.) A minimum of 24 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

**2.5 Data Reduction.** Opacity shall be determined as an average of 24 consecutive observations recorded at 15-second intervals. Divide the observations recorded on the record sheet into sets of 24 consecutive observations. A set is composed of any 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. If an applicable standard specifies an averaging time requiring more than 24 observations, calculate the average for all observations made during the specified time period. Record the average opacity on a record sheet. (See Figure 9-1 for an example.)

Figure 9-2. Observation record.

Company NEFCO/SHA

Observer FRANCIS K. MORLEY

Location 7501 N. 506 RD. WPA, FL

Type facility BIO-SOLIDS PELLETTIZATION

Test Number L-1 (SCRUBBER I)

Point of emissions EXIT OF STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12	0	0	0	0			
	13	0	0	0	0			
	14	0	0	0	0			
	15	0	0	0	0			
	16	0	0	0	0			
	17	0	0	0	0			
	18	0	0	0	0			
	19	0	0	0	0			
	20	0	0	0	0			
	21	0	0	0	0			
	22	0	0	0	0			
	23	0	0	0	0			
	24	0	0	0	0			
	25	0	0	0	0			
	26	0	0	0	0			
	27	0	0	0	0			
	28	0	0	0	0			
	29	0	0	0	0			

Figure 9-2. Observation record.

Company NEFCO/SWA

Observer FRANCIS K. MORLEY

Location 7501 N. JOG Rd. WPB, FL

Type facility BIO-SOLIDS PELLETTIZATION

Test Number 1-1 (SCRUBBER 1)

Point of emissions EXIT OF STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	30	0	0	0	0			
	31	0	0	0	0			
	32	0	0	0	0			
	33	0	0	0	0			
	34	0	0	0	0			
	35	0	0	0	0			
	36	0	0	0	0			
	37	0	0	0	0			
	38	0	0	0	0			
	39	0	0	0	0			
	40	0	0	0	0			
	41	0	0	0	0			
	42	0	0	0	0			
	43	0	0	0	0			
	44	0	0	0	0			
	45	0	0	0	0			
	46	0	0	0	0			
	47	0	0	0	0			
	48	0	0	0	0			
	49	0	0	0	0			
	50	0	0	0	0			
	51	0	0	0	0			
	52	0	0	0	0			
	53	0	0	0	0			
	54	0	0	0	0			
	55	0	0	0	0			
	56	0	0	0	0			
	57	0	0	0	0			
	58	0	0	0	0			
	59	0	0	0	0			

**METHOD 9 - VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES - RECORDS**

**Figure 9-1. Record of visual determination of opacity.**

Company <u>NBF CO/SWA</u>				
Location <u>7501 NORTH JOE ROAD</u>				
Test No. <u>ONE-ONE</u>				
Date <u>SEPT. 10, 2009</u>				
Type of Facility <u>BIO SOLIDS PELLETTIZATION</u>				
Control Devices <u>SCRUBBER (DUST COLLECTOR)</u>				
Hours of Observation <u>ONE (8:45-9:45)</u>				
Observer <u>FRANCIS K. MORLU</u>				
Observer Certification Date <u>8/12/09</u>		Observer Affiliation <u>SFES</u>		
Points of Emissions <u>EXIT OF STACK</u>		Height of Discharge Point <u>135 FT</u>		
	Initial	Final		
CLOCK TIME	<u>8:45</u>	<u>9:45</u>		
OBSERVATION LOCATION				
Distance to Discharge	<u>600 FT</u>	<u>600 FT</u>		
Direction from Discharge	<u>280°</u>	<u>280°</u>		
Height of Observation Point	<u>135 FT</u>	<u>135 FT</u>		
BACKGROUND DESCRIPTION (Vegetation, Sky, etc.)	<u>SKY</u>	<u>SKY</u>		
WEATHER CONDITIONS	<u>CLOUDY</u>	<u>CLOUDY</u>		
Wind Direction	<u>NE</u>	<u>NE</u>		
Wind Speed	<u>0-5</u>	<u>0-5</u>		
Ambient Temperature	<u>80</u>	<u>82</u>		
SKY CONDITIONS (clear, overcast, %clouds, etc.)				
PLUME DESCRIPTION	<u>NONE</u>	<u>NONE</u>		
Color	<u>N/A</u>	<u>N/A</u>		
Distance Visible	<u>N/A</u>	<u>N/A</u>		
OTHER INFORMATION				
<b>SUMMARY OF AVERAGE OPACITY</b>				
Set Number	Time		Opacity	
	Start - End		Sum	Average
	<u>8:45</u>	<u>9:45</u>	<u>0</u>	<u>0</u>
Readings ranged from ___ to ___ % opacity.				
The source was/was not in compliance with ___ at the time evaluation was made.				

*FK Morlu*

Diagram

**From NSPS Method 9:**

**2. PROCEDURES**

The observer qualified in accordance with Section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

**2.1 Position.** The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and,

when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

**2.2 Field Records.** The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on a field data sheet (Figure 9-1). The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

**2.3 Observations.** Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals.

**2.3.1 Attached Steam Plumes.** When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

**2.3.2 Detached Steam Plume.** When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

**2.4 Recording Observations.** Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on an observational record sheet. (See Figure 9-2 for an example.) A minimum of 24 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

**2.5 Data Reduction.** Opacity shall be determined as an average of 24 consecutive observations recorded at 15-second intervals. Divide the observations recorded on the record sheet into sets of 24 consecutive observations. A set is composed of any 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. If an applicable standard specifies an averaging time requiring more than 24 observations, calculate the average for all observations made during the specified time period. Record the average opacity on a record sheet. (See Figure 9-1 for an example.)

Figure 9-2. Observation record.

Company N & F CO / S W A

Observer FRANCIS K. MORLU

Location 7501 N. 506 RD. W P B, FL

Type facility BIO SOLIDS PELLETTIZATION

Test Number 1-1 (RTO 1)

Point of emissions EXIT OF STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12	0	0	0	0			
	13	0	0	0	0			
	14	0	0	0	0			
	15	0	0	0	0			
	16	0	0	0	0			
	17	0	0	0	0			
	18	0	0	0	0			
	19	0	0	0	0			
	20	0	0	0	0			
	21	0	0	0	0			
	22	0	0	0	0			
	23	0	0	0	0			
	24	0	0	0	0			
	25	0	0	0	0			
	26	0	0	0	0			
	27	0	0	0	0			
	28	0	0	0	0			
	29	0	0	0	0			

Figure 9-2. Observation record.

Company NERCO/SWA

Observer FRANCIS K. MORLU

Location 7501 N. 206 RD. WPRB, FL

Type facility BIOSOLIDS PELLETTIZATION

Test Number 1-1 (RTO 1)

Point of emissions EXIT OF STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	30	0	0	0	0			
	31	0	0	0	0			
	32	0	0	0	0			
	33	0	0	0	0			
	34	0	0	0	0			
	35	0	0	0	0			
	36	0	0	0	0			
	37	0	0	0	0			
	38	0	0	0	0			
	39	0	0	0	0			
	40	0	0	0	0			
	41	0	0	0	0			
	42	0	0	0	0			
	43	0	0	0	0			
	44	0	0	0	0			
	45	0	0	0	0			
	46	0	0	0	0			
	47	0	0	0	0			
	48	0	0	0	0			
	49	0	0	0	0			
	50	0	0	0	0			
	51	0	0	0	0			
	52	0	0	0	0			
	53	0	0	0	0			
	54	0	0	0	0			
	55	0	0	0	0			
	56	0	0	0	0			
	57	0	0	0	0			
	58	0	0	0	0			
	59	0	0	0	0			

**METHOD 9 - VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES - RECORDS**

**Figure 9-1. Record of visual determination of opacity.**

Company	NEFCO/SWA		
Location	7501 NORTH FOG ROAD		
Test No.	2-1 (SCRUBBER 2)		
Date	SEPT. 10, 2009		
Type of Facility	BIOSOLIDS PELLETTIZATION		
Control Devices			
Hours of Observation	10:00 - 11:00		
Observer	FRANCIS K. MORLEY		
Observer Certification Date	8/12/09	Observer Affiliation	SFES
Points of Emissions	EXIT OF STACK	Height of Discharge Point	50
	Initial	Final	
CLOCK TIME	10:00 AM	11:00 AM	
OBSERVATION LOCATION			
Distance to Discharge	160 FT	160 FT	
Direction from Discharge	300°	300°	
Height of Observation Point	50 FT	50 FT	
BACKGROUND DESCRIPTION (Vegetation, Sky, etc.)	SKY	SKY	
WEATHER CONDITIONS			
Wind Direction	NE	NE	
Wind Speed	0 - 10	0 - 10	
Ambient Temperature	83	84	
SKY CONDITIONS (clear, overcast, %clouds, etc.)	SCATTERED	SAME	
PLUME DESCRIPTION			
Color	N/A	N/A	
Distance Visible	N/A	N/A	
OTHER INFORMATION			
<b>SUMMARY OF AVERAGE OPACITY</b>			
Set Number	Time	Opacity	
	Start - End	Sum	Average
	10:00 - 11:00 AM	0	0
Readings ranged from 0 to 0 % opacity.			
The source was/was not in compliance with _____ at the time evaluation was made.			

*FK Morley*



Diagram

**From NSPS Method 9:  
2. PROCEDURES**

The observer qualified in accordance with Section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

**2.1 Position.** The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and,

when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

**2.2 Field Records.** The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on a field data sheet (Figure 9-1). The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

**2.3 Observations.** Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals.

**2.3.1 Attached Steam Plumes.** When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

**2.3.2 Detached Steam Plume.** When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

**2.4 Recording Observations.** Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on an observational record sheet. (See Figure 9-2 for an example.) A minimum of 24 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

**2.5 Data Reduction.** Opacity shall be determined as an average of 24 consecutive observations recorded at 15-second intervals. Divide the observations recorded on the record sheet into sets of 24 consecutive observations. A set is composed of any 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. If an applicable standard specifies an averaging time requiring more than 24 observations, calculate the average for all observations made during the specified time period. Record the average opacity on a record sheet. (See Figure 9-1 for an example.)

Figure 9-2. Observation record.

Company N EFCO/SWA

Observer FRANCIS K. MORLU

Location 7501 N. JOG ROAD

Type facility BIO SOLIDS PELLETTIZATION

Test Number 2-1 (SCRUBBER)

Point of emissions EXIT OF STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12	0	0	0	0			
	13	0	0	0	0			
	14	0	0	0	0			
	15	0	0	0	0			
	16	0	0	0	0			
	17	0	0	0	0			
	18	0	0	0	0			
	19	0	0	0	0			
	20	0	0	0	0			
	21	0	0	0	0			
	22	0	0	0	0			
	23	0	0	0	0			
	24	0	0	0	0			
	25	0	0	0	0			
	26	0	0	0	0			
	27	0	0	0	0			
	28	0	0	0	0			
	29	0	0	0	0			

Figure 9-2. Observation record.

Company N ERCO/SWA

Observer FRANCIS K. MORLU

Location 7501 N. JOG ROAD

Type facility BIO SOLIDS PELLETTIZATION

Test Number 2-1 (BERNABER 2)

Point of emissions EXIT OF STACIL

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	30	0	0	0	0			
	31	0	0	0	0			
	32	0	0	0	0			
	33	0	0	0	0			
	34	0	0	0	0			
	35	0	0	0	0			
	36	0	0	0	0			
	37	0	0	0	0			
	38	0	0	0	0			
	39	0	0	0	0			
	40	0	0	0	0			
	41	0	0	0	0			
	42	0	0	0	0			
	43	0	0	0	0			
	44	0	0	0	0			
	45	0	0	0	0			
	46	0	0	0	0			
	47	0	0	0	0			
	48	0	0	0	0			
	49	0	0	0	0			
	50	0	0	0	0			
	51	0	0	0	0			
	52	0	0	0	0			
	53	0	0	0	0			
	54	0	0	0	0			
	55	0	0	0	0			
	56	0	0	0	0			
	57	0	0	0	0			
	58	0	0	0	0			
	59	0	0	0	0			

**METHOD 9 - VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES - RECORDS**

**Figure 9-1. Record of visual determination of opacity.**

Company <u>NEFCO/SWA</u>				
Location <u>7501</u>				
Test No. <u>1-2 (RTO 1)</u>				
Date <u>SEPT. 10, 2009</u>				
Type of Facility <u>BIO-SOLIDS PELLETIZATION</u>				
Control Devices <u>SCRUBBER</u>				
Hours of Observation <u>1130 - 1230</u>				
Observer <u>FRANCIS K. MORLU</u>		Observer Affiliation		
Observer Certification Date <u>8/12/09</u>		Height of Discharge Point		
Points of Emissions <u>EXIT OF STACK</u>				
	Initial	Final		
CLOCK TIME	<u>1130</u>	<u>1230</u>		
OBSERVATION LOCATION				
Distance to Discharge	<u>460</u>	<u>460</u>		
Direction from Discharge	<u>330</u>	<u>330</u>		
Height of Observation Point	<u>SOFT</u>	<u>SOFT</u>		
BACKGROUND DESCRIPTION (Vegetation, Sky, etc.)	<u>SILY</u>	<u>SILY</u>		
WEATHER CONDITIONS				
Wind Direction	<u>NE</u>	<u>NE</u>		
Wind Speed	<u>0-10</u>	<u>0-10</u>		
Ambient Temperature	<u>88</u>	<u>88</u>		
SKY CONDITIONS (clear, overcast, %clouds, etc.)	<u>OVERCAST</u>	<u>OVERCAST</u>		
PLUME DESCRIPTION				
Color	<u>N/A</u>	<u>N/A</u>		
Distance Visible	<u>N/A</u>	<u>N/A</u>		
OTHER INFORMATION				
<b>SUMMARY OF AVERAGE OPACITY</b>				
Set Number	Time		Opacity	
	Start - End		Sum	Average
	<u>1130</u>	<u>1230</u>	<u>0</u>	<u>0</u>
Readings ranged from <u>0</u> to <u>0</u> % opacity.				
The source was/was not in compliance with _____ at the time evaluation was made.				

Diagram

**From NSPS Method 9:**

**2. PROCEDURES**

The observer qualified in accordance with Section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

**2.1 Position.** The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and,

when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

**2.2 Field Records.** The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on a field data sheet (Figure 9-1). The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

**2.3 Observations.** Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals.

**2.3.1 Attached Steam Plumes.** When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

**2.3.2 Detached Steam Plume.** When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

**2.4 Recording Observations.** Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on an observational record sheet. (See Figure 9-2 for an example.) A minimum of 24 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

**2.5 Data Reduction.** Opacity shall be determined as an average of 24 consecutive observations recorded at 15-second intervals. Divide the observations recorded on the record sheet into sets of 24 consecutive observations. A set is composed of any 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. If an applicable standard specifies an averaging time requiring more than 24 observations, calculate the average for all observations made during the specified time period. Record the average opacity on a record sheet. (See Figure 9-1 for an example.)

Figure 9-2. Observation record.

Company NERCO/SWA

Observer FRANCIS K. MORAN

Location 7501 N. SOG RD. WPR, FL

Type facility BIO-SOLIDS PELLETTIZATION

Test Number 1-2 (R TO 1)

Point of emissions EXIT OF STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12	0	0	0	0			
	13	0	0	0	0			
	14	0	0	0	0			
	15	0	0	0	0			
	16	0	0	0	0			
	17	0	0	0	0			
	18	0	0	0	0			
	19	0	0	0	0			
	20	0	0	0	0			
	21	0	0	0	0			
	22	0	0	0	0			
	23	0	0	0	0			
	24	0	0	0	0			
	25	0	0	0	0			
	26	0	0	0	0			
	27	0	0	0	0			
	28	0	0	0	0			
	29	0	0	0	0			

Figure 9-2. Observation record.

Company NECFCD/SWA

Observer FRANCIS K. MORLU

Location 7501 N. JOG RD. WPKB, FL

Type facility BIO-SOLIDS PELLETTIZATION

Test Number 1-2 (RTO I)

Point of emissions EXIT OF STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	30	0	0	0	0			
	31	0	0	0	0			
	32	0	0	0	0			
	33	0	0	0	0			
	34	0	0	0	0			
	35	0	0	0	0			
	36	0	0	0	0			
	37	0	0	0	0			
	38	0	0	0	0			
	39	0	0	0	0			
	40	0	0	0	0			
	41	0	0	0	0			
	42	0	0	0	0			
	43	0	0	0	0			
	44	0	0	0	0			
	45	0	0	0	0			
	46	0	0	0	0			
	47	0	0	0	0			
	48	0	0	0	0			
	49	0	0	0	0			
	50	0	0	0	0			
	51	0	0	0	0			
	52	0	0	0	0			
	53	0	0	0	0			
	54	0	0	0	0			
	55	0	0	0	0			
	56	0	0	0	0			
	57	0	0	0	0			
	58	0	0	0	0			
	59	0	0	0	0			

**METHOD 9 - VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES - RECORDS**

**Figure 9-1. Record of visual determination of opacity.**

Company <u>NEFCO/SWA</u>				
Location <u>7501 N. JOG RD. WPA, FL</u>				
Test No. <u>1-2 (SCRUBBER 2)</u>				
Date <u>SEPT. 10, 2009</u>				
Type of Facility <u>BIO SOLIDS PELLETTIZATION</u>				
Control Devices <u>SCRUBBER</u>				
Hours of Observation <u>11:30 - 12:30</u>				
Observer <u>FRANCIS K. MORLU</u>				
Observer Certification Date <u>8/12/09</u>	Observer Affiliation <u>SPES</u>			
Points of Emissions <u>EXIT OF SOF STACK</u>	Height of Discharge Point <u>SOFT</u>			
	Initial	Final		
CLOCK TIME	<u>1130</u>	<u>1230</u>		
OBSERVATION LOCATION				
Distance to Discharge	<u>450</u>	<u>450</u>		
Direction from Discharge	<u>320</u>	<u>320</u>		
Height of Observation Point	<u>SOFT</u>	<u>SOFT</u>		
BACKGROUND DESCRIPTION (Vegetation, Sky, etc.)	<u>SKY</u>	<u>SKY</u>		
WEATHER CONDITIONS				
Wind Direction	<u>NE</u>	<u>NE</u>		
Wind Speed	<u>0-10</u>	<u>0-10</u>		
Ambient Temperature	<u>88</u>	<u>88</u>		
SKY CONDITIONS (clear, overcast, %clouds, etc.)	<u>OVERCAST</u>	<u>OVERCAST</u>		
PLUME DESCRIPTION				
Color	<u>N/A</u>	<u>N/A</u>		
Distance Visible	<u>N/A</u>	<u>N/A</u>		
OTHER INFORMATION				
<b>SUMMARY OF AVERAGE OPACITY</b>				
Set Number	Time		Opacity	
	Start - End		Sum	Average
	<u>1130</u>	<u>1230</u>	<u>0</u>	<u>0</u>
Readings ranged from <u>0</u> to <u>0</u> % opacity.				
The source was/was not in compliance with _____ at the time evaluation was made.				

*J.K. Morlu*



Diagram

**From NSPS Method 9:**

**2. PROCEDURES**

The observer qualified in accordance with Section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

**2.1 Position.** The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and,

when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

**2.2 Field Records.** The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on a field data sheet (Figure 9-1). The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

**2.3 Observations.** Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals.

**2.3.1 Attached Steam Plumes.** When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

**2.3.2 Detached Steam Plume.** When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

**2.4 Recording Observations.** Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on an observational record sheet. (See Figure 9-2 for an example.) A minimum of 24 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

**2.5 Data Reduction.** Opacity shall be determined as an average of 24 consecutive observations recorded at 15-second intervals. Divide the observations recorded on the record sheet into sets of 24 consecutive observations. A set is composed of any 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. If an applicable standard specifies an averaging time requiring more than 24 observations, calculate the average for all observations made during the specified time period. Record the average opacity on a record sheet. (See Figure 9-1 for an example.)

Figure 9-2. Observation record.

Company NEPCO/SWA

Observer FRANCIS K. MOKLU

Location 7501 N. JOG. RD, WPK, FL

Type facility BIO-SOLIDS PELLETTIZATION

Test Number 1-2 (SCRUBBER 2)

Point of emissions EXIT OF STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12	0	0	0	0			
	13	0	0	0	0			
	14	0	0	0	0			
	15	0	0	0	0			
	16	0	0	0	0			
	17	0	0	0	0			
	18	0	0	0	0			
	19	0	0	0	0			
	20	0	0	0	0			
	21	0	0	0	0			
	22	0	0	0	0			
	23	0	0	0	0			
	24	0	0	0	0			
	25	0	0	0	0			
	26	0	0	0	0			
	27	0	0	0	0			
	28	0	0	0	0			
	29	0	0	0	0			

Figure 9-2. Observation record.

Company NEFCO/SWA

Observer FRANCIS K. MOYLL

Location 7501 N. JOG RD, WPB, FL

Type facility BIO-SOLIDS PELLETIZATION

Test Number 1-2 (SCRUBBER2)

Point of emissions EXIT OF STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	30	0	0	0	0			
	31	0	0	0	0			
	32	0	0	0	0			
	33	0	0	0	0			
	34	0	0	0	0			
	35	0	0	0	0			
	36	0	0	0	0			
	37	0	0	0	0			
	38	0	0	0	0			
	39	0	0	0	0			
	40	0	0	0	0			
	41	0	0	0	0			
	42	0	0	0	0			
	43	0	0	0	0			
	44	0	0	0	0			
	45	0	0	0	0			
	46	0	0	0	0			
	47	0	0	0	0			
	48	0	0	0	0			
	49	0	0	0	0			
	50	0	0	0	0			
	51	0	0	0	0			
	52	0	0	0	0			
	53	0	0	0	0			
	54	0	0	0	0			
	55	0	0	0	0			
	56	0	0	0	0			
	57	0	0	0	0			
	58	0	0	0	0			
	59	0	0	0	0			

**METHOD 9 - VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES - RECORDS**

**Figure 9-1. Record of visual determination of opacity.**

Company <i>NEFCO/SWA</i>				
Location <i>75014. JGG RD. W.P.B., FL</i>				
Test No. <i>1-2 (RTO 1)</i>				
Date <i>SEPT. 10, 2009</i>				
Type of Facility <i>BIO-SOLIDS PELLETTIZATION</i>				
Control Devices				
Hours of Observation <i>1130 - 1230</i>				
Observer <i>FRANCIS K. MORUM</i>				
Observer Certification Date <i>8/12/09</i>		Observer Affiliation <i>SFES</i>		
Points of Emissions <i>EXIT OF 135 FT. STACK</i>		Height of Discharge Point <i>135 FT</i>		
	Initial	Final		
CLOCK TIME	<i>1130</i>	<i>1230</i>		
OBSERVATION LOCATION				
Distance to Discharge	<i>400 FT</i>	<i>400 FT</i>		
Direction from Discharge	<i>310°</i>	<i>310°</i>		
Height of Observation Point	<i>135 FT</i>	<i>135 FT</i>		
BACKGROUND DESCRIPTION (Vegetation, Sky, etc.)	<i>SKY</i>	<i>SKY</i>		
WEATHER CONDITIONS				
Wind Direction	<i>NE</i>	<i>NE</i>		
Wind Speed	<i>0-10</i>	<i>0-10</i>		
Ambient Temperature	<i>88</i>	<i>88</i>		
SKY CONDITIONS (clear, overcast, %clouds, etc.)	<i>OVERCAST</i>	<i>OVERCAST</i>		
PLUME DESCRIPTION				
Color	<i>N/A</i>	<i>N/A</i>		
Distance Visible	<i>N/A</i>	<i>N/A</i>		
OTHER INFORMATION				
<b>SUMMARY OF AVERAGE OPACITY</b>				
Set Number	Time		Opacity	
	Start - End		Sum	Average
	<i>1130</i>	<i>1230</i>	<i>0</i>	<i>0</i>
Readings ranged from <i>0</i> to <i>0</i> % opacity.				
The source was/was not in compliance with _____ at the time evaluation was made.				

Diagram

From NSPS Method 9:

## 2. PROCEDURES

The observer qualified in accordance with Section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

**2.1 Position.** The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and,

when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

**2.2 Field Records.** The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on a field data sheet (Figure 9-1). The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

**2.3 Observations.** Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals.

**2.3.1 Attached Steam Plumes.** When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

**2.3.2 Detached Steam Plume.** When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

**2.4 Recording Observations.** Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on an observational record sheet. (See Figure 9-2 for an example.) A minimum of 24 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

**2.5 Data Reduction.** Opacity shall be determined as an average of 24 consecutive observations recorded at 15-second intervals. Divide the observations recorded on the record sheet into sets of 24 consecutive observations. A set is composed of any 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. If an applicable standard specifies an averaging time requiring more than 24 observations, calculate the average for all observations made during the specified time period. Record the average opacity on a record sheet. (See Figure 9-1 for an example.)

Figure 9-2. Observation record.

Company NEFCO/SWA

Observer FRANCIS K. MORLU

Location 7501 N.E. RD, WP15, FL

Type facility BIO-SOLIDS PELLETERIZATION

Test Number 1-2 (RTO 1)

Point of emissions EXIT OF STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12	0	0	0	0			
	13	0	0	0	0			
	14	0	0	0	0			
	15	0	0	0	0			
	16	0	0	0	0			
	17	0	0	0	0			
	18	0	0	0	0			
	19	0	0	0	0			
	20	0	0	0	0			
	21	0	0	0	0			
	22	0	0	0	0			
	23	0	0	0	0			
	24	0	0	0	0			
	25	0	0	0	0			
	26	0	0	0	0			
	27	0	0	0	0			
	28	0	0	0	0			
	29	0	0	0	0			

Figure 9-2. Observation record.

Company NBRCO

Observer FRANCIS K. MORLEY

Location 7501 N. 506. RD W P B, FL

Type facility BIO SOLIDS PELLETIZATION

Test Number 1-2 (RTO 1)

Point of emissions EXIT OF <sup>RTO</sup> ~~SETBACK~~ STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	30	0	0	0	0			
	31	0	0	0	0			
	32	0	0	0	0			
	33	0	0	0	0			
	34	0	0	0	0			
	35	0	0	0	0			
	36	0	0	0	0			
	37	0	0	0	0			
	38	0	0	0	0			
	39	0	0	0	0			
	40	0	0	0	0			
	41	0	0	0	0			
	42	0	0	0	0			
	43	0	0	0	0			
	44	0	0	0	0			
	45	0	0	0	0			
	46	0	0	0	0			
	47	0	0	0	0			
	48	0	0	0	0			
	49	0	0	0	0			
	50	0	0	0	0			
	51	0	0	0	0			
	52	0	0	0	0			
	53	0	0	0	0			
	54	0	0	0	0			
	55	0	0	0	0			
	56	0	0	0	0			
	57	0	0	0	0			
	58	0	0	0	0			
	59	0	0	0	0			

**METHOD 9 - VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES - RECORDS**

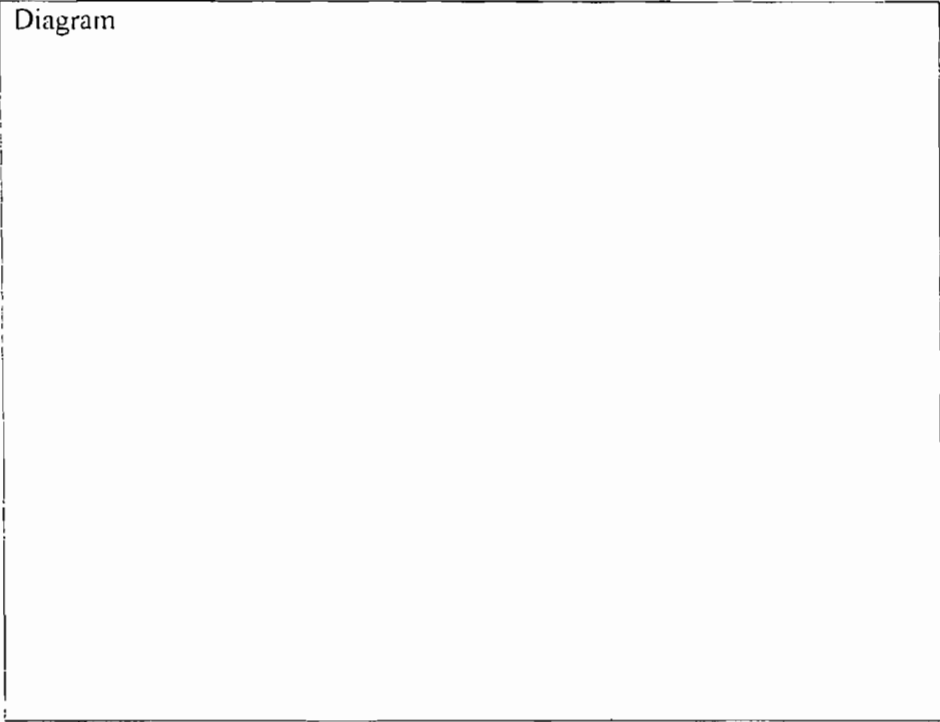
**Figure 9-1. Record of visual determination of opacity.**

Company <i>NEFCO/SWA</i>				
Location <i>7501 N. JOG RD, WPA, FL</i>				
Test No. <i>1-3 (SCRUBBER 1)</i>				
Date <i>SEPT. 10, 2009</i>				
Type of Facility <i>BIOSOLID PELLETTIZATION</i>				
Control Devices <i>SCRUBBER</i>				
Hours of Observation <i>1500--1600</i>				
Observer <i>FRANCIS K. MORLU</i>		Observer Affiliation <i>SFES</i>		
Observer Certification Date <i>8/12/09</i>		Height of Discharge Point <i>50 FT</i>		
Points of Emissions <i>EXIT OF STACK</i>				
	Initial	Final		
CLOCK TIME	<i>1500</i>	<i>1600</i>		
OBSERVATION LOCATION				
Distance to Discharge	<i>370 FT</i>	<i>370 FT</i>		
Direction from Discharge	<i>90°</i>	<i>90°</i>		
Height of Observation Point	<i>50 FT</i>	<i>50 FT</i>		
BACKGROUND DESCRIPTION (Vegetation, Sky, etc.)	<i>SKY</i>	<i>SKY</i>		
WEATHER CONDITIONS				
Wind Direction	<i>0 S NE</i>	<i>0 S NE</i>		
Wind Speed	<i>0-5</i>	<i>0-5</i>		
Ambient Temperature	<i>86</i>	<i>86</i>		
SKY CONDITIONS (clear, overcast, %clouds, etc.)	<i>OVERCAST</i>	<i>OVERCAST</i>		
PLUME DESCRIPTION				
Color	<i>N/A</i>	<i>N/A</i>		
Distance Visible	<i>N/A</i>	<i>N/A</i>		
OTHER INFORMATION				
<b>SUMMARY OF AVERAGE OPACITY</b>				
Set Number	Time		Opacity	
		Start - End	Sum	Average
		<i>1500 -- 1600</i>	<i>0</i>	<i>0</i>
Readings ranged from ___ to ___ % opacity.				
The source was/was not in compliance with ___ at the time evaluation was made.				

*J.K. Morlu*



Diagram



**From NSPS Method 9:**

**2. PROCEDURES**

The observer qualified in accordance with Section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

**2.1 Position.** The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and.

when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

**2.2 Field Records.** The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on a field data sheet (Figure 9-1). The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

**2.3 Observations.** Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals.

**2.3.1 Attached Steam Plumes.** When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

**2.3.2 Detached Steam Plume.** When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

**2.4 Recording Observations.** Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on an observational record sheet. (See Figure 9-2 for an example.) A minimum of 24 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

**2.5 Data Reduction.** Opacity shall be determined as an average of 24 consecutive observations recorded at 15-second intervals. Divide the observations recorded on the record sheet into sets of 24 consecutive observations. A set is composed of any 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. If an applicable standard specifies an averaging time requiring more than 24 observations, calculate the average for all observations made during the specified time period. Record the average opacity on a record sheet. (See Figure 9-1 for an example.)

Figure 9-2. Observation record.

Company NEFCO/SWA

Observer FRANCIS K. MORLEY

Location 7501 N. JOG RD, WPA, FL

Type facility BIO SOLID PELLETIZATION

Test Number 1-3 (SCRUBBER)

Point of emissions EXIT OF STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12	0	0	0	0			
	13	0	0	0	0			
	14	0	0	0	0			
	15	0	0	0	0			
	16	0	0	0	0			
	17	0	0	0	0			
	18	0	0	0	0			
	19	0	0	0	0			
	20	0	0	0	0			
	21	0	0	0	0			
	22	0	0	0	0			
	23	0	0	0	0			
	24	0	0	0	0			
	25	0	0	0	0			
	26	0	0	0	0			
	27	0	0	0	0			
	28	0	0	0	0			
	29	0	0	0	0			

Figure 9-2. Observation record.

Company NEFCO/SWA

Observer FRANKIS K. MORLU

Location 7501 N. 30<sup>th</sup> RD, WPB, FL

Type facility BIO SOLID PELLETTIZATION

Test Number 1-3 (SCRUBBER)

Point of emissions EXIT OF STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	30	0	0	0	0			
	31	0	0	0	0			
	32	0	0	0	0			
	33	0	0	0	0			
	34	0	0	0	0			
	35	0	0	0	0			
	36	0	0	0	0			
	37	0	0	0	0			
	38	0	0	0	0			
	39	0	0	0	0			
	40	0	0	0	0			
	41	0	0	0	0			
	42	0	0	0	0			
	43	0	0	0	0			
	44	0	0	0	0			
	45	0	0	0	0			
	46	0	0	0	0			
	47	0	0	0	0			
	48	0	0	0	0			
	49	0	0	0	0			
	50	0	0	0	0			
	51	0	0	0	0			
	52	0	0	0	0			
	53	0	0	0	0			
	54	0	0	0	0			
	55	0	0	0	0			
	56	0	0	0	0			
	57	0	0	0	0			
	58	0	0	0	0			
	59	0	0	0	0			

**METHOD 9 - VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES - RECORDS**

**Figure 9-1. Record of visual determination of opacity.**

Company <u>NEFCO/SWA</u>				
Location <u>7501 N. JOG. RD, WPA, FL</u>				
Test No. <u>1-3 (R201)</u>				
Date <u>SEPT. 10, 2009</u>				
Type of Facility <u>BIO-SOLID PELLETTIZATION</u>				
Control Devices <u>SCRUBBER</u>				
Hours of Observation <u>1500 -- 1600</u>				
Observer <u>FRANCIS K. MORLU</u>		Observer Affiliation <u>SFES</u>		
Observer Certification Date <u>8/12/09</u>		Height of Discharge Point <u>135 FT</u>		
Points of Emissions <u>EXIT OF 135 FT STACK</u>				
	Initial	Final		
CLOCK TIME	<u>1500</u>	<u>1600</u>		
OBSERVATION LOCATION				
Distance to Discharge	<u>400 FT</u>	<u>400 FT</u>		
Direction from Discharge	<u>170°</u>	<u>170°</u>		
Height of Observation Point	<u>135 FT</u>	<u>135 FT</u>		
BACKGROUND DESCRIPTION (Vegetation, Sky, etc.)	<u>SKY</u>	<u>SKY</u>		
WEATHER CONDITIONS				
Wind Direction	<u>NE</u>	<u>NE</u>		
Wind Speed	<u>0-5</u>			
Ambient Temperature	<u>86</u>	<u>86</u>		
SKY CONDITIONS (clear, overcast, %clouds, etc.)	<u>OVERCAST</u>	<u>OVERCAST</u>		
PLUME DESCRIPTION				
Color	<u>N/A</u>	<u>N/A</u>		
Distance Visible	<u>N/A</u>	<u>N/A</u>		
OTHER INFORMATION				
<b>SUMMARY OF AVERAGE OPACITY</b>				
Set Number	Time		Opacity	
	Start - End		Sum	Average
	<u>1500 -- 1600</u>		<u>0</u>	<u>0</u>
Readings ranged from <u>0</u> to <u>0</u> % opacity.				
The source was/was not in compliance with _____ at the time evaluation was made.				

*Francis K. Morlu*

Diagram

**From NSPS Method 9:**

## **2. PROCEDURES**

The observer qualified in accordance with Section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

**2.1 Position.** The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and,

when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

**2.2 Field Records.** The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on a field data sheet (Figure 9-1). The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

**2.3 Observations.** Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals.

**2.3.1 Attached Steam Plumes.** When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

**2.3.2 Detached Steam Plume.** When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

**2.4 Recording Observations.** Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on an observational record sheet. (See Figure 9-2 for an example.) A minimum of 24 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

**2.5 Data Reduction.** Opacity shall be determined as an average of 24 consecutive observations recorded at 15-second intervals. Divide the observations recorded on the record sheet into sets of 24 consecutive observations. A set is composed of any 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. If an applicable standard specifies an averaging time requiring more than 24 observations, calculate the average for all observations made during the specified time period. Record the average opacity on a record sheet. (See Figure 9-1 for an example.)

Figure 9-2. Observation record.

Company NEFCO/SWD

Observer FRANCIS K. MORLEY

Location 7501 N. JOG RD, WPB, FL

Type facility BIO SOLID PELLE TIZATION

Test Number 1-3 (R TO I)

Point of emissions EXIT OF STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12	0	0	0	0			
	13	0	0	0	0			
	14	0	0	0	0			
	15	0	0	0	0			
	16	0	0	0	0			
	17	0	0	0	0			
	18	0	0	0	0			
	19	0	0	0	0			
	20	0	0	0	0			
	21	0	0	0	0			
	22	0	0	0	0			
	23	0	0	0	0			
	24	0	0	0	0			
	25	0	0	0	0			
	26	0	0	0	0			
	27	0	0	0	0			
	28	0	0	0	0			
	29	0	0	0	0			

Figure 9-2. Observation record.

Company NEFCO/BWA

Observer FRANCIS K. MORLEY

Location 7501 N. JOG RD, WPB, FL

Type facility BIO SOLID PELLETTIZATION

Test Number 1-3 (RTO 1)

Point of emissions EXIT OF STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	30	0	0	0	0			
	31	0	0	0	0			
	32	0	0	0	0			
	33	0	0	0	0			
	34	0	0	0	0			
	35	0	0	0	0			
	36	0	0	0	0			
	37	0	0	0	0			
	38	0	0	0	0			
	39	0	0	0	0			
	40	0	0	0	0			
	41	0	0	0	0			
	42	0	0	0	0			
	43	0	0	0	0			
	44	0	0	0	0			
	45	0	0	0	0			
	46	0	0	0	0			
	47	0	0	0	0			
	48	0	0	0	0			
	49	0	0	0	0			
	50	0	0	0	0			
	51	0	0	0	0			
	52	0	0	0	0			
	53	0	0	0	0			
	54	0	0	0	0			
	55	0	0	0	0			
	56	0	0	0	0			
	57	0	0	0	0			
	58	0	0	0	0			
	59	0	0	0	0			



**FIELD DATA SHEETS**

TRAIN # 2



CK Environmental, Inc.

EPA Method 5 / 101A

Run No Unit #2 / Run #1

Phone: (781 828-5200)

Fax: (781 828-5380)

Field Data Sheet

Page 1 of 1

Client	<u>NEFCO</u>	Pollutant	<u>PM / Mercury</u>	Nozzle No. & Dia.	<u>46442</u>	Pitot Coefficient	<u>0.84</u>
Plant	<u>SWA of Palm Beach</u>	Duct Dia.	<u>36"</u>	Probe ID.	<u>M5-460</u>	Orifice Delta H @	<u>1.6232</u>
Facility	<u>Biosolids Processing</u>	Test Duration	<u>120 min</u>	Probe Heat Set	<u>250°F</u>	Test Time	Start <u>1232</u>
City, State	<u>West Palm Beach, FL</u>	Min. Per Pt.	<u>10</u>	Filter Temp. Set	<u>250°F</u>		Stop <u>1436</u>
Test Date	<u>9/12/09</u>	Amb Temp	<u>87</u>	Assumed % H <sub>2</sub> O		Train Leak Check	Start <u>0.00</u> CFM@ <u>15</u> in. Hg.
Location	<u>Dryer 1 / 2 Stack</u>	Bar. Press.	<u>29.96</u>	Nomograph K Factor	<u>6.2</u>		Final <u>0.00</u> CFM@ in. Hg.
Testers	<u>JD</u>	Filter No.	<u>9081235</u>	Dry Gas Meter Y	<u>1.0007</u>	Pitot Leak Check	Start <input checked="" type="checkbox"/> OK
Meter Box ID	<u>E3P2</u>					(>3" WC)	Final <input checked="" type="checkbox"/> OK

Stack Static Pressure:		<u>-3.1</u>												
Port	Point	Time min.	Velocity Delta P	Delta H	Gas Vol. ft <sup>3</sup>	Temp Prb F	T stack F	Dry Gas Meter		Filter Box F	Last Imp F	Aux F	Pump Vac Hg"	
								Inlet	Outlet					
A1	1	0	.40	2.48	243.575	245	221	99	98	243	65	---	3	
	2	10	.42	2.60	252.9	243	278	102	98	244	63	---	3	
	3	20	.45	2.79	262.6	250	276	102	99	251	64	---	3	
	4	30	.46	2.85	272.0	248	279	103	99	253	60	---	3	
	5	40	.42	2.60	282.0	249	281	105	101	254	61	---	3	
	6	50			291.7									
	PC	60	.44	2.73	296.1	249	270	106	102	255	65	---	4	
B1	1	60	.45	2.79	300.7	251	325	107	102	255	64	---	3	
	2	70	.44	2.73	314.9	250	280	107	102	257	63	---	3	
	3	80	.48	2.97	325.1	251	296	107	102	255	63	---	3	
	4	90	.42	2.60	334.3	252	295	108	103	254	60	---	3	
	5	100	.38	2.35	344.4	248	261	108	104	253	58	---	3	
	6	110	.34	2.12	353.7	251	284	108	104	254	58	---	3	
	END	120			363.015									

Avg sqrt dP/Avg/ or Total:

Impinger Catch:					
Imp. No.	1	2	3	4	
Final vol/wt.	<u>240</u>	<u>170</u>	<u>102</u>	<u>750.5</u>	
Init. vol/wt.	50	100	100	<u>718.7</u>	TOTAL
Catch	<u>160</u>	<u>70</u>	<u>2</u>	<u>31.8</u>	<u>263.8</u>
	KMNO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>			Si Gel	

Notes:

Quality Control Check:

Completeness \_\_\_\_\_ Legibility \_\_\_\_\_ Accuracy \_\_\_\_\_ Specifications \_\_\_\_\_ Reasonableness \_\_\_\_\_

Orsat Analysis

EPA Method 3

O<sub>2</sub>

CO<sub>2</sub>

Field Calculations

As = \_\_\_\_\_ ft<sup>2</sup>

Tstd = 528 R

Pstd = 29.92 in. Hg

Ts = 460 + Tstk = \_\_\_\_\_ R

Ps = Pbar + (Pg/13.6) = \_\_\_\_\_ in. Hg

Vs = (85.49) x Cp x sqrt(Delta P) x sqrt(Ts/(Ps x MW))

= \_\_\_\_\_ ft/sec

Qa = 60 x Vs x As = \_\_\_\_\_ ACFM

Qstd = Qa x (1-Bws) x (Tstd/Ts) x (Ps/Pstd)

= \_\_\_\_\_ DSCFM

Client	<u>NEFD 3490</u>	Pollutant	<u>Hg/PM</u>	Nozzle No. & Dia.	<u>46442</u>	Pitot Coefficient	<u>0.84</u>
Plant		Duct Dia.		Probe ID.	<u>M5-460</u>	Orifice Delta H @	<u>1.6232</u>
Facility		Test Duration	<u>120 min</u>	Probe Heat Set	<u>250°F</u>	Test Time	Start <u>1520</u>
City, State	<u>W. Palm Beach, FL</u>	Min. Per Pt.	<u>10 min</u>	Filter Temp. Set	<u>250°F</u>	Stop	<u>1730</u>
Test Date	<u>9/12/09</u>	Amb Temp		Assumed % H <sub>2</sub> O		Train Leak Check	Start <u>0.001</u> CFM@ <u>16</u> in. Hg.
Location	<u>Unit #2</u>	Bar. Press.	<u>29.96</u>	Nomograph K Factor	<u>6.2</u>		Final <u>0.0</u> CFM@ <u>8</u> in. Hg.
Testers	<u>JD</u>	Filter No.	<u>908 1234</u>	Dry Gas Meter Y	<u>1.0007</u>	Pitot Leak Check	Start <u>✓</u> OK
Meter Box ID	<u>ES#2</u>					(>3" WC)	Final <u>✓</u> OK

Stack Static Pressure: <u>-3.5</u>		Time min.	Velocity Delta P	Delta H	Gas Vol. ft <sup>3</sup>	Temp Prb F	T stack F	Dry Gas Meter		Filler Box F	Last Imp F	Aux F	Pump Vac Hg"
Port	Point							Inlet	Outlet				
A	1	0	0.49	3.03	263.510	250	249	105	104	251	64	---	4
	2	10	.41	2.54	374.2	243	248	107	104	243	63	---	5
	3	20	.41	2.54	383.7	247	301	108	104	241	65	---	5
	4	30	.40	2.48	394.1	240	269	106	102	239	64	---	5
	5	40	.37	2.29	403.4	241	243	100	98	252	63	---	5
	6	50	.35	2.17	411.9	246	227	98	96	244	62	---	5
	PC	60			420.8								
B	1	60	.41	2.54	423.6	248	288	98	95	246	65	---	5
	2	70	.39	2.41	432.9	256	274	97	94	257	66	---	5
	3	80	.35	2.17	440.9	259	267	97	94	254	65	---	5
	4	90	.34	2.11	449.1	243	241	99	95	248	64	---	5
	5	100	.32	1.98	457.7	248	238	100	96	249	64	---	5
	6	110	.35	2.17	465.7	254	251	101	96	253	63	---	5
	END	120			475.410								

Avg sqrt dP/Avg/ or Total:

Impinger Catch:

Imp. No.	1	2	3	4		
Final vol/wt.	<u>257</u>	<u>164</u>	<u>110</u>	<u>816.4</u>		
Init. vol/wt.	100	100	0	<u>791.5</u>		TOTAL
Catch						

H2O2/HNO3

Empty

Si Gel

Notes:

Quality Control Check:

Orsat Analysis

EPA Method 3

O <sub>2</sub>	
CO <sub>2</sub>	

Field Calculations

As =      ft<sup>2</sup>  
 Tstd = 528 R                      Pstd = 29.92 in. Hg  
 Ts = 460 + Tstk =      R  
 Ps = Pbar + (Pg/13.6) =      in. Hg  
 Vs = (85.49) x Cp x sqrt(Delta P) x sqrt(Ts/(Ps x MW))  
 =      ft/sec  
 Qa = 60 x Vs x As =      ACFM  
 Qstd = Qa x (1-Bws) x (Tstd/Ts) x (Ps/Pstd)  
 =      DSCFM

CK Environmental, Inc.

EPA Method 5 / 101A

Run No Unit #2 / Run #3

Phone: (781) 828-5200

Fax: (781) 828-5380

Field Data Sheet

Page      of     

Client	NEFCO	Pollutant	PM / Mercury	Nozzle No. & Dia.	46-1#2	Pitot Coefficient	0.84
Plant	SWA of Palm Beach	Duct Dia.	36"	Probe ID.	M5-460	Orifice Delta H @	1.6232
Facility	Biosolids Processing	Test Duration	120 min	Probe Heat Set	230°F	Test Time	Start 7:19:34
City, State	West Palm Beach, FL	Min. Per Pt.	10	Filter Temp. Set	250°F	Stop	7:40
Test Date	9/12/09	Amb Temp	82	Assumed % H <sub>2</sub> O		Train Leak Check	Start 0.00 CFM @ 15 in. Hg.
Location	Dryer 1 / 2 Stack	Bar. Press.		Nomograph K Factor	6.2	Pitot Leak Check	Final 0.00 CFM @ 10 in. Hg.
Testers	JD	Filter No.	9081233	Dry Gas Meter Y	1.0001	Start	✓ OK
Meter Box ID	2542					Final	✓ OK

Stack Static Pressure: <u>0.31</u>				Delta H	Gas Vol. ft <sup>3</sup>	Temp Prb F	T stack F	Dry Gas Meter		Filter Box F	Last Imp F	Aux F	Pump Vac Hg"
Port	Point	Time min.	Velocity Delta P					Inlet	Outlet				
A1	1	0	.44	2.73	475.52	244	298	90	87	240	64		5.5
	2	10	.43	2.66	486.3	246	283	93	87	241	65		5.5
	3	20	.45	2.79	496.4	248	303	94	87	240	63		5.5
	4	30	.45	2.79	505.6	245	294	95	88	247	65		5.5
	5	40	.44	2.73	515.3	248	297	95	88	247	64		5.5
	6	50	.48	2.96	524.8	248	318	95	89	248	66		5.5
	PC	60			534.5								
B1	1	60	.45	2.79	536.4	248	284	96	89	249	65		5.5
	2	70	.48	2.96	544.8	249	339	97	89	249	63		5.5
	3	80	.39	2.35	555.7	251	293	98	90	249	66		5.5
	4	90	.47	2.91	565.3	255	347	98	90	253	65		5.5
	5	100	.38	2.35	574.0	251	309	98	91	252	64		5.5
	6	110	.40	2.40	583.0	252	296	98	91	250	65		5.5
	END	120			592.810								

Avg sqrt dP/Avg/ or Total:

Imp. No.	1	2	3	4	TOTAL
Final vol/wt.	218	178	122	793.8	
Init. vol/wt.	50	100	100	756.4	
Catch					

KMNO4/H2SO4      Si Gel

Orsat Analysis  
EPA Method 3  
O<sub>2</sub>  
CO<sub>2</sub>

Field Calculations

As = \_\_\_\_\_ ft<sup>2</sup>  
 Tstd = 528 R      Pstd = 29.92 in. Hg  
 Ts = 460 + Tstk = \_\_\_\_\_ R  
 Ps = Pbar + (Pg/13.6) = \_\_\_\_\_ in. Hg  
 Vs = (85.49) x Cp x sqrt(Delta P) x sqrt(Ts/(Ps x MW))  
 = \_\_\_\_\_ ft/sec  
 Qa = 60 x Vs x As = \_\_\_\_\_ ACFM  
 Qstd = Qa x (1-Bws) x (Tstd/Ts) x (Ps/Pstd)  
 = \_\_\_\_\_ DSCFM

Notes:

Quality Control Check:

Completeness \_\_\_\_\_ Legibility \_\_\_\_\_ Accuracy \_\_\_\_\_ Specifications \_\_\_\_\_ Reasonableness \_\_\_\_\_



\* CHART RECORDED ON INLET ADJUSTED NUMERICAL #'S  
 ARE 1/2 OF ACTUAL. WATER IN SYSTEM CAUSED PROBLEMS  
 W/ INLET TCO SSI ANALYZER  
 METHOD 25A DATA SHEET

PLANT: NEFLW-SWA  
 TEST LOCATION: #2  
 LOAD: \_\_\_\_\_

DATE: 7-12-09  
 OPERATOR: M. KAUF  
 RESPONSE TIME: \_\_\_\_\_

CALIBRATION ERROR TEST					
TEST AREA	CALIBRATION GAS LEVEL (% SPAN)	CYLINDER CONCENTRATION	ACTUAL RESPONSE	PREDICTED RESPONSE	CALIBRATION ERROR
THC INLET	ZERO	0.0			
	LOW (25-35%)				
	MID (45-55%)				
	HIGH (80-90%)				
	MEASUREMENT SPAN =	SLOPE =			
THC OUTLET	ZERO	0.0			
	LOW (25-35%)				
	MID (45-55%)				
	HIGH (80-90%)				
	MEASUREMENT SPAN =	SLOPE =			

CALIBRATION ERROR = LESS THAN 5% OF THE RESPECTIVE CYLINDER CONCENTRATION

FORMULAS:

SLOPE =	$\frac{\text{HIGH LEVEL CAL GAS ACTUAL RESPONSE} - \text{ZERO GAS ACTUAL RESPONSE}}{\text{HIGH LEVEL CAL GAS CYLINDER CONCENTRATION}}$
PREDICTED RESPONSE =	$\text{SLOPE} \times \text{CYLINDER CONCENTRATION}$
CALIBRATION ERROR =	$\frac{100 \times (\text{ACTUAL RESPONSE} - \text{PREDICTED RESPONSE})}{\text{CYLINDER CONCENTRATION}}$

CALIBRATION DRIFT TEST									
TEST AREA	CE TEST ACTUAL RESPONSE	RUN 1		RUN 2		RUN 3		SPARE	
		RESPONSE	DRIFT	RESPONSE	DRIFT	RESPONSE	DRIFT	RESPONSE	DRIFT
THC INLET	0.0								
THC INLET	16.13	16.1	8.3						
THC OUTLET	0.0	0.0		0.2		0.2			
THC OUTLET	16.0	16.1		15.8		15.8			

CALIBRATION DRIFT = LESS THAN 3% OF THE MEASUREMENT SPAN

CALIBRATION DRIFT =	$\frac{100 \times (\text{CAL ERROR TEST ACTUAL RESPONSE} - \text{CAL DRIFT TEST RESPONSE})}{\text{MEASUREMENT SPAN}}$
---------------------	---

RUN AVERAGES	RUN 1	RUN 2	RUN 3	SPARE
RUN TIME:				
INLET:				
OUTLET:	12.2	12.1	10.0	
DE %:				

- SYSTEM FAILED DURING Run #1 - Had to void the test - no  
 results completed.



**SYSTEM CALIBRATION SHEET**

PLANT: NEFCO-SWA DATE: 9-10-09  
 TEST LOCATION: #2 OPERATOR: M. Kelly  
 FUEL: 1-FG SYSTEM RESPONSE TIME: \_\_\_\_\_  
 LOAD: ≈ 14 tons/hr

		O <sub>2</sub>		CO <sub>2</sub>		CO		SO <sub>2</sub>		NOx	
		RANGE: ZERO	SPAN	RANGE: ZERO	SPAN	RANGE: ZERO	SPAN	RANGE: ZERO	SPAN	RANGE: ZERO	SPAN
RUN: <u>1</u> START TIME: <u>12:32</u> END TIME: <u>14:37</u>	ANALYZER CAL RESPONSE	0.2	9.9	0.0	10.0	0.6	45.4	0.0	25.8	0.0	44.7
	INITIAL SYSTEM CAL RESPONSE	0.2	10.0	0.0	9.8	1.0	45.4	0.1	25.9	0.0	44
	SYSTEM BIAS										
	FINAL SYSTEM CAL RESPONSE	0.2	9.9	0.3	10.3	0.5	44.7	1.1	25.8	0.0	43.8
	SYSTEM BIAS										
	SYSTEM DRIFT										
NON CAL. CORR. AVERAGE		10.7 10.2		8.4 9.0		39.4 20.5		24.9 27.8		14.7 29	
RUN: <u>2</u> START TIME: <u>15:20</u> END TIME: <u>17:25</u>	INITIAL SYSTEM CAL RESPONSE	0.2	9.9	0.3	10.3	0.5	44.7	1.1	25.8	0.0	43.8
	SYSTEM BIAS										
	FINAL SYSTEM CAL RESPONSE	0.2	10.0	0.1	9.8	0.6	45.2	1.2	26.0	1.1	44.7
	SYSTEM BIAS										
	SYSTEM DRIFT										
	NON CAL. CORR. AVERAGE		9.8		9.3		20.2		30.5		31.4
RUN: <u>3</u> START TIME: <u>19:34</u> END TIME: <u>20:40</u>	INITIAL SYSTEM CAL RESPONSE	0.2	10.0	0.1	9.8	0.6	45.2	1.2	26.0	1.1	44.7
	SYSTEM BIAS										
	FINAL SYSTEM CAL RESPONSE	0.2	9.8	0.1	9.8	1.1	45.2	0.8	25.8	0.8	44.2
	SYSTEM BIAS										
	SYSTEM DRIFT										
	NON CAL. CORR. AVERAGE		9.7		9.1		15.5		7 19.8		27.4

14/1

START @ 10:38 - 1.0%

SYSTEM BIAS = [(SYSTEM RESPONSE - ANALYZER RESPONSE) / HIGH CYLINDER VALUE] \* 100

ERROR MUST NOT EXCEED 5% NO. CONV @ 20:55 49.6 = 45.3

SYSTEM DRIFT = [(INITIAL SYSTEM RESPONSE - FINAL SYSTEM RESPONSE) / HIGH CYLINDER VALUE] \* 100

ERROR MUST NOT EXCEED 3%

Quality Control Check: Completeness \_\_\_\_\_ Legibility \_\_\_\_\_ Accuracy \_\_\_\_\_ Specifications \_\_\_\_\_ Reasonableness \_\_\_\_\_



**OPACITY FIELD DATA SHEETS**

TRAIN # 2

**METHOD 9 - VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES - RECORDS**

**Figure 9-1. Record of visual determination of opacity.**

Company <u>NEFCO/SWA</u>				
Location <u>7501 N. 506. RD. WPA, FL</u>				
Test No. <u>RT021 (RT02)</u>				
Date <u>SEPT. 12, 2009</u>				
Type of Facility <u>BIO-SOLIDS PELLETTIZATION</u>				
Control Devices <u>DUST COLLECTOR</u>				
Hours of Observation <u>1010 - 1110</u>				
Observer <u>FRANCIS K. MORLU</u>		Observer Affiliation <u>SFES</u>		
Observer Certification Date <u>8/12/09</u>		Height of Discharge Point <u>135 FT</u>		
Points of Emissions <u>EXIT OF #10 STACK</u>				
	Initial	Final		
CLOCK TIME	<u>1010</u>	<u>1110</u>		
OBSERVATION LOCATION				
Distance to Discharge	<u>420 FT</u>	<u>420 FT</u>		
Direction from Discharge	<u>300°</u>	<u>300°</u>		
Height of Observation Point	<u>135 FT</u>	<u>135 FT</u>		
BACKGROUND DESCRIPTION (Vegetation, Sky, etc.)	<u>SKY</u>	<u>SKY</u>		
WEATHER CONDITIONS				
Wind Direction	<u>NE SW</u>	<u>SW</u>		
Wind Speed	<u>0-10</u>	<u>0-10</u>		
Ambient Temperature	<u>83</u>	<u>83</u>		
SKY CONDITIONS (clear, overcast, %clouds, etc.)	<u>OVERCAST</u>	<u>OVERCAST</u>		
PLUME DESCRIPTION				
Color	<u>N/A</u>	<u>N/A</u>		
Distance Visible	<u>N/A</u>	<u>N/A</u>		
OTHER INFORMATION				
<b>SUMMARY OF AVERAGE OPACITY</b>				
Set Number	Time		Opacity	
	Start - End		Sum	Average
	<u>1010</u>	<u>1110</u>	<u>0</u>	<u>0</u>
Readings ranged from <u>0</u> to <u>0</u> % opacity.				
The source was/was not in compliance with _____ at the time evaluation was made.				

*FK Morlu*

Diagram

**From NSPS Method 9:**

## **2. PROCEDURES**

The observer qualified in accordance with Section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

**2.1 Position.** The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and,

when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

**2.2 Field Records.** The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on a field data sheet (Figure 9-1). The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

**2.3 Observations.** Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals.

**2.3.1 Attached Steam Plumes.** When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

**2.3.2 Detached Steam Plume.** When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

**2.4 Recording Observations.** Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on an observational record sheet. (See Figure 9-2 for an example.) A minimum of 24 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

**2.5 Data Reduction.** Opacity shall be determined as an average of 24 consecutive observations recorded at 15-second intervals. Divide the observations recorded on the record sheet into sets of 24 consecutive observations. A set is composed of any 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. If an applicable standard specifies an averaging time requiring more than 24 observations, calculate the average for all observations made during the specified time period. Record the average opacity on a record sheet. (See Figure 9-1 for an example.)



Figure 9-2. Observation record.

Company NEFCO/SWA

Observer FRANCIS K. MORLU

Location 7301 N. JOG RD, WPB, FL

Type facility BIOSOLIDS PELLETTIZATION

Test Number RTO 2 - 1

Point of emissions EXIT OF RTO STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12	0	0	0	0			
	13	0	0	0	0			
	14	0	0	0	0			
	15	0	0	0	0			
	16	0	0	0	0			
	17	0	0	0	0			
	18	0	0	0	0			
	19	0	0	0	0			
	20	0	0	0	0			
	21	0	0	0	0			
	22	0	0	0	0			
	23	0	0	0	0			
	24	0	0	0	0			
	25	0	0	0	0			
	26	0	0	0	0			
	27	0	0	0	0			
	28	0	0	0	0			
	29	0	0	0	0			

Figure 9-2. Observation record.

Company NEPCO/SWA

Observer FRANCIS K. MORLU

Location 7501N 50G RD. WPA, FL

Type facility BIO-SOLIDS PELLETTIZATION

Test Number RTO 2-1

Point of emissions EXIT OF RTO STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	30	0	0	0	0			
	31	0	0	0	0			
	32	0	0	0	0			
	33	0	0	0	0			
	34	0	0	0	0			
	35	0	0	0	0			
	36	0	0	0	0			
	37	0	0	0	0			
	38	0	0	0	0			
	39	0	0	0	0			
	40	0	0	0	0			
	41	0	0	0	0			
	42	0	0	0	0			
	43	0	0	0	0			
	44	0	0	0	0			
	45	0	0	0	0			
	46	0	0	0	0			
	47	0	0	0	0			
	48	0	0	0	0			
	49	0	0	0	0			
	50	0	0	0	0			
	51	0	0	0	0			
	52	0	0	0	0			
	53	0	0	0	0			
	54	0	0	0	0			
	55	0	0	0	0			
	56	0	0	0	0			
	57	0	0	0	0			
	58	0	0	0	0			
	59	0	0	0	0			

**METHOD 9 - VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES - RECORDS**

**Figure 9-1. Record of visual determination of opacity.**

Company <u>NEFCO/SWA</u>				
Location <u>7501 N. 306 RD WPB, FL</u>				
Test No. <u>SCRUBBER 1-1</u>				
Date <u>SEPT. 12, 2009</u>				
Type of Facility <u>BIO-SOLIDS PELLETTIZATION</u>				
Control Devices <u>DUST COLLECTOR</u>				
Hours of Observation <u>1010 - 1110</u>				
Observer <u>FRANCIS K. MORLU</u>				
Observer Certification Date <u>8/12/09</u>		Observer Affiliation <u>SFES</u>		
Points of Emissions <u>SCRUBBER STACK</u>		Height of Discharge Point <u>50 FT</u>		
		Initial	Final	
CLOCK TIME		<u>1010</u>	<u>1110</u>	
OBSERVATION LOCATION				
Distance to Discharge		<u>430 FT</u>	<u>430 FT</u>	
Direction from Discharge		<u>310°</u>	<u>310°</u>	
Height of Observation Point		<u>50 FT</u>	<u>50 FT</u>	
BACKGROUND DESCRIPTION (Vegetation, Sky, etc.)		<u>SKY</u>	<u>SKY</u>	
WEATHER CONDITIONS				
Wind Direction		<u>SW</u>	<u>SW</u>	
Wind Speed		<u>0-10</u>	<u>0-10</u>	
Ambient Temperature		<u>83</u>	<u>83</u>	
SKY CONDITIONS (clear, overcast, %clouds, etc.)		<u>OVERCAST</u>	<u>OVERCAST</u>	
PLUME DESCRIPTION				
Color		<u>N/A</u>	<u>N/A</u>	
Distance Visible		<u>N/A</u>	<u>N/A</u>	
OTHER INFORMATION				
<b>SUMMARY OF AVERAGE OPACITY</b>				
Set Number	Time		Opacity	
	Start - End		Sum	Average
	<u>1010 - 1110</u>		<u>0</u>	<u>0</u>
Readings ranged from <u>0</u> to <u>0</u> % opacity.				
The source was/was not in compliance with <u>      </u> at the time evaluation was made.				

*FK Morlu*

Diagram

From NSPS Method 9:

## 2. PROCEDURES

The observer qualified in accordance with Section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

**2.1 Position.** The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and,

when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

**2.2 Field Records.** The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on a field data sheet (Figure 9-1). The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

**2.3 Observations.** Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals.

**2.3.1 Attached Steam Plumes.** When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

**2.3.2 Detached Steam Plume.** When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

**2.4 Recording Observations.** Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on an observational record sheet. (See Figure 9-2 for an example.) A minimum of 24 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

**2.5 Data Reduction.** Opacity shall be determined as an average of 24 consecutive observations recorded at 15-second intervals. Divide the observations recorded on the record sheet into sets of 24 consecutive observations. A set is composed of any 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. If an applicable standard specifies an averaging time requiring more than 24 observations, calculate the average for all observations made during the specified time period. Record the average opacity on a record sheet. (See Figure 9-1 for an example.)

Figure 9-2. Observation record.

Company NEFCO/SWA

Observer FRANCIS K. MORLEY

Location 7501 N. 306. RD WPRB, FL

Type facility BIO-SOLIDS PELLETTIZATION

Test Number SCRUBBER 1 - 1

Point of emissions EXIT OF SCRUBBER STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12	0	0	0	0			
	13	0	0	0	0			
	14	0	0	0	0			
	15	0	0	0	0			
	16	0	0	0	0			
	17	0	0	0	0			
	18	0	0	0	0			
	19	0	0	0	0			
	20	0	0	0	0			
	21	0	0	0	0			
	22	0	0	0	0			
	23	0	0	0	0			
	24	0	0	0	0			
	25	0	0	0	0			
	26	0	0	0	0			
	27	0	0	0	0			
	28	0	0	0	0			
	29	0	0	0	0			

Figure 9-2. Observation record.

Company NEFCO/SWA

Observer FRANCIS K. MORLEY

Location 7501 N. JOG RD, WYB, FL

Type facility BIO-SOLIDS PELLETTIZATION

Test Number SCRUBBER 1 - 1

Point of emissions SCRUBBER STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	30	0	0	0	0			
	31	0	0	0	0			
	32	0	0	0	0			
	33	0	0	0	0			
	34	0	0	0	0			
	35	0	0	0	0			
	36	0	0	0	0			
	37	0	0	0	0			
	38	0	0	0	0			
	39	0	0	0	0			
	40	0	0	0	0			
	41	0	0	0	0			
	42	0	0	0	0			
	43	0	0	0	0			
	44	0	0	0	0			
	45	0	0	0	0			
	46	0	0	0	0			
	47	0	0	0	0			
	48	0	0	0	0			
	49	0	0	0	0			
	50	0	0	0	0			
	51	0	0	0	0			
	52	0	0	0	0			
	53	0	0	0	0			
	54	0	0	0	0			
	55	0	0	0	0			
	56	0	0	0	0			
	57	0	0	0	0			
	58	0	0	0	0			
	59	0	0	0	0			

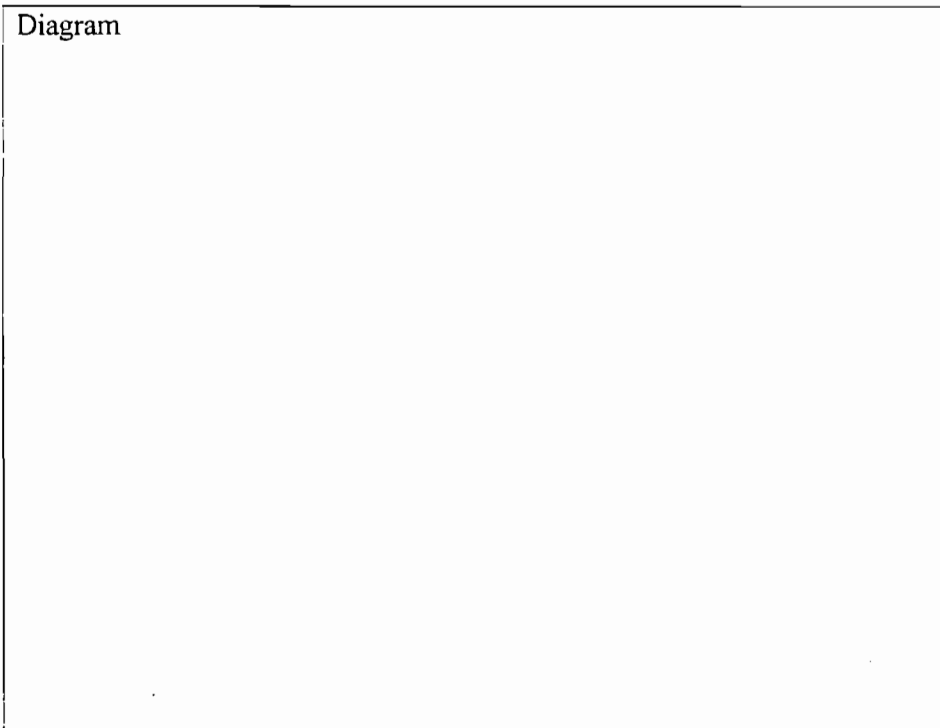
**METHOD 9 - VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES - RECORDS**

**Figure 9-1. Record of visual determination of opacity.**

Company <u>NEFCO/SWA</u>				
Location <u>7501 P. JOG. RD, WPB, FL</u>				
Test No. <u>SCRUBBER 2-1</u>				
Date <u>SEPT. 12, 2009</u>				
Type of Facility <u>BIO-SOLIDS PELLETTIZATION</u>				
Control Devices <u>DUST COLLECTOR</u>				
Hours of Observation <u>1010 - 1110</u>				
Observer <u>FRANCIS K. MORLU</u>				
Observer Certification Date <u>8/12/09</u>	Observer Affiliation <u>EFES</u>			
Points of Emissions <u>SCRUBBER STACK</u>	Height of Discharge Point <u>50 FT</u>			
	Initial	Final		
CLOCK TIME	<u>1010</u>	<u>1110</u>		
OBSERVATION LOCATION				
Distance to Discharge	<u>430 FT</u>	<u>430 FT</u>		
Direction from Discharge	<u>312°</u>	<u>312°</u>		
Height of Observation Point	<u>50 FT</u>	<u>50 FT</u>		
BACKGROUND DESCRIPTION (Vegetation, Sky, etc.)	<u>SKY OVERCAST</u>	<u>SKY OVERCAST</u>		
WEATHER CONDITIONS				
Wind Direction	<u>SW</u>	<u>SW</u>		
Wind Speed	<u>0-10</u>	<u>0-10</u>		
Ambient Temperature	<u>83°</u>	<u>83°</u>		
SKY CONDITIONS (clear, overcast, %clouds, etc.)	<u>OVERCAST</u>	<u>OVERCAST</u>		
PLUME DESCRIPTION				
Color	<u>N/A</u>	<u>N/A</u>		
Distance Visible	<u>N/A</u>	<u>N/A</u>		
OTHER INFORMATION				
<b>SUMMARY OF AVERAGE OPACITY</b>				
Set Number	Time		Opacity	
	Start - End		Sum	Average
	<u>1010 - - 1110</u>		<u>0</u>	<u>0</u>
Readings ranged from <u>0</u> to <u>0</u> % opacity.				
The source was/was not in compliance with _____ at the time evaluation was made.				

*Francis K. Morlu*

Diagram



**From NSPS Method 9:  
2. PROCEDURES**

The observer qualified in accordance with Section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

**2.1 Position.** The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and,

when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

**2.2 Field Records.** The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on a field data sheet (Figure 9-1). The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

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Figure 9-2. Observation record.

Company NEFCO/SWA

Observer FRANCIS K. MORLU

Location 7501 N. JOG RD, WPRB

Type facility BIO SOLIDS PELLETIZATION

Test Number SCRUBBER 2-1

Point of emissions SCRUBBER STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12	0	0	0	0			
	13	0	0	0	0			
	14	0	0	0	0			
	15	0	0	0	0			
	16	0	0	0	0			
	17	0	0	0	0			
	18	0	0	0	0			
	19	0	0	0	0			
	20	0	0	0	0			
	21	0	0	0	0			
	22	0	0	0	0			
	23	0	0	0	0			
	24	0	0	0	0			
	25	0	0	0	0			
	26	0	0	0	0			
	27	0	0	0	0			
	28	0	0	0	0			
	29	0	0	0	0			

Figure 9-2. Observation record.

Company NERCO/SWA

Observer FRANCIS K. MORLEY

Location 7501 N. JOE RD W PIS, FL

Type facility BIO-SOLIDS PELLETTIZATION

Test Number SCRUBBER 2-1

Point of emissions SCRUBBER STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	30	0	0	0	0			
	31	0	0	0	0			
	32	0	0	0	0			
	33	0	0	0	0			
	34	0	0	0	0			
	35	0	0	0	0			
	36	0	0	0	0			
	37	0	0	0	0			
	38	0	0	0	0			
	39	0	0	0	0			
	40	0	0	0	0			
	41	0	0	0	0			
	42	0	0	0	0			
	43	0	0	0	0			
	44	0	0	0	0			
	45	0	0	0	0			
	46	0	0	0	0			
	47	0	0	0	0			
	48	0	0	0	0			
	49	0	0	0	0			
	50	0	0	0	0			
	51	0	0	0	0			
	52	0	0	0	0			
	53	0	0	0	0			
	54	0	0	0	0			
	55	0	0	0	0			
	56	0	0	0	0			
	57	0	0	0	0			
	58	0	0	0	0			
	59	0	0	0	0			

**METHOD 9 - VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES - RECORDS**

**Figure 9-1. Record of visual determination of opacity.**

Company <i>NEFCO/SWA</i>				
Location <i>7501 N. 306 Rd, WPR</i>				
Test No. <i>RTO 2-2</i>				
Date <i>SEPT. 12, 2009</i>				
Type of Facility <i>BIO-SOLIDS PELLETTIZATION</i>				
Control Devices <i>DUST COLLECTOR</i>				
Hours of Observation				
Observer <i>FRANCIS K. MORLEY</i>				
Observer Certification Date <i>8/12/09</i>	Observer Affiliation			
Points of Emissions <i>EXIT OF RTO STACK</i>	Height of Discharge Point			
	Initial	Final		
CLOCK TIME	<i>1520</i>	<i>1620</i>		
OBSERVATION LOCATION				
Distance to Discharge	<i>650 FT</i>	<i>650 FT</i>		
Direction from Discharge	<i>140</i>	<i>140</i>		
Height of Observation Point	<i>135 FT</i>	<i>135 FT</i>		
BACKGROUND DESCRIPTION (Vegetation, Sky, etc.)	<i>SKY</i>	<i>SKY</i>		
WEATHER CONDITIONS				
Wind Direction	<i>SE</i>	<i>SE</i>		
Wind Speed	<i>0-15</i>	<i>0-15</i>		
Ambient Temperature	<i>87</i>	<i>88</i>		
SKY CONDITIONS (clear, overcast, %clouds, etc.)	<i>OVERCAST</i>	<i>OVERCAST</i>		
PLUME DESCRIPTION				
Color	<i>N/A</i>			
Distance Visible	<i>N/A</i>			
OTHER INFORMATION				
<b>SUMMARY OF AVERAGE OPACITY</b>				
Set Number	Time		Opacity	
	Start - End		Sum	Average
	<i>1520 -- 1620</i>		<i>0</i>	<i>0</i>
Readings ranged from ___ to ___ % opacity.				
The source was/was not in compliance with ___ at the time evaluation was made.				

*FK Morley*

Diagram

From NSPS Method 9:

## 2. PROCEDURES

The observer qualified in accordance with Section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

**2.1 Position.** The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and.

when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

**2.2 Field Records.** The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on a field data sheet (Figure 9-1). The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

**2.3 Observations.** Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals.

**2.3.1 Attached Steam Plumes.** When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

**2.3.2 Detached Steam Plume.** When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

**2.4 Recording Observations.** Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on an observational record sheet. (See Figure 9-2 for an example.) A minimum of 24 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

**2.5 Data Reduction.** Opacity shall be determined as an average of 24 consecutive observations recorded at 15-second intervals. Divide the observations recorded on the record sheet into sets of 24 consecutive observations. A set is composed of any 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. If an applicable standard specifies an averaging time requiring more than 24 observations, calculate the average for all observations made during the specified time period. Record the average opacity on a record sheet. (See Figure 9-1 for an example.)

Figure 9-2. Observation record.

Company NEFCO/SWA

Observer FRANCIS K. MORLU

Location 7301 N. 30th Rd, WPA, PA

Type facility BIO-SOLIDS PELLETTIZATION

Test Number RTO 2-2

Point of emissions EXIT OF RTO STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12	0	0	0	0			
	13	0	0	0	0			
	14	0	0	0	0			
	15	0	0	0	0			
	16	0	0	0	0			
	17	0	0	0	0			
	18	0	0	0	0			
	19	0	0	0	0			
	20	0	0	0	0			
	21	0	0	0	0			
	22	0	0	0	0			
	23	0	0	0	0			
	24	0	0	0	0			
	25	0	0	0	0			
	26	0	0	0	0			
	27	0	0	0	0			
	28	0	0	0	0			
	29	0	0	0	0			

Figure 9-2. Observation record.

Company NERCO/SWA

Observer FRANCIS K. MOKLI

Location 7501 N. JOG RD, WPB, FL

Type facility BIO-SOLIDS PELLETTIZATION

Test Number RTO 2-2

Point of emissions BEH OF RTO STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	30	0	0	0	0			
	31	0	0	0	0			
	32	0	0	0	0			
	33	0	0	0	0			
	34	0	0	0	0			
	35	0	0	0	0			
	36	0	0	0	0			
	37	0	0	0	0			
	38	0	0	0	0			
	39	0	0	0	0			
	40	0	0	0	0			
	41	0	0	0	0			
	42	0	0	0	0			
	43	0	0	0	0			
	44	0	0	0	0			
	45	0	0	0	0			
	46	0	0	0	0			
	47	0	0	0	0			
	48	0	0	0	0			
	49	0	0	0	0			
	50	0	0	0	0			
	51	0	0	0	0			
	52	0	0	0	0			
	53	0	0	0	0			
	54	0	0	0	0			
	55	0	0	0	0			
	56	0	0	0	0			
	57	0	0	0	0			
	58	0	0	0	0			
	59	0	0	0	0			

**METHOD 9 - VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES - RECORDS**

**Figure 9-1. Record of visual determination of opacity.**

Company <u>NEFCO/SWA</u>				
Location <u>7501 N. SOG RD. WPK, FL</u>				
Test No. <u>SCRUBBER 1-2</u>				
Date <u>SEPT. 12, 2009</u>				
Type of Facility <u>BIO-SOLIDS PELLETON</u>				
Control Devices <u>DUST COLLECTOR</u>				
Hours of Observation <u>1520 - 1620</u>				
Observer <u>FRANCIS K. MORLEY</u>				
Observer Certification Date <u>8/12/09</u>	Observer Affiliation <u>SKES</u>			
Points of Emissions <u>SCRUBBER STACK</u>	Height of Discharge Point <u>50 FT</u>			
	Initial	Final		
CLOCK TIME	<u>1520</u>	<u>1620</u>		
OBSERVATION LOCATION				
Distance to Discharge	<u>650 FT</u>	<u>650 FT</u>		
Direction from Discharge	<u>110°</u>	<u>110°</u>		
Height of Observation Point	<u>50 FT</u>	<u>50 FT</u>		
BACKGROUND DESCRIPTION (Vegetation, Sky, etc.)	<u>SKY</u>	<u>SKY</u>		
WEATHER CONDITIONS				
Wind Direction	<u>SE</u>	<u>SE</u>		
Wind Speed	<u>0-15</u>	<u>0-15</u>		
Ambient Temperature	<u>87</u>	<u>85</u>		
SKY CONDITIONS (clear, overcast, %clouds, etc.)	<u>OVERCAST</u>	<u>OVERCAST</u>		
PLUME DESCRIPTION				
Color	<u>N/A</u>	<u>N/A</u>		
Distance Visible	<u>N/A</u>	<u>N/A</u>		
OTHER INFORMATION				
<b>SUMMARY OF AVERAGE OPACITY</b>				
Set Number	Time		Opacity	
	Start - End		Sum	Average
	<u>1520 - 1620</u>		<u>0</u>	<u>0</u>
Readings ranged from <u>0</u> to <u>0</u> % opacity.				
The source was/was not in compliance with _____ at the time evaluation was made.				

*FK Morley*

Diagram

**From NSPS Method 9:**

**2. PROCEDURES**

The observer qualified in accordance with Section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

**2.1 Position.** The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and.

when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

**2.2 Field Records.** The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on a field data sheet (Figure 9-1). The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

**2.3 Observations.** Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals.

**2.3.1 Attached Steam Plumes.** When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

**2.3.2 Detached Steam Plume.** When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

**2.4 Recording Observations.** Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on an observational record sheet. (See Figure 9-2 for an example.) A minimum of 24 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

**2.5 Data Reduction.** Opacity shall be determined as an average of 24 consecutive observations recorded at 15-second intervals. Divide the observations recorded on the record sheet into sets of 24 consecutive observations. A set is composed of any 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. If an applicable standard specifies an averaging time requiring more than 24 observations, calculate the average for all observations made during the specified time period. Record the average opacity on a record sheet. (See Figure 9-1 for an example.)



Figure 9-2. Observation record.

Company NEFCO/SWA

Observer FRANCIS K. MORLEY

Location 7501 N. JOG RD. WPB, FL

Type facility BIO SOLIDS PELLETTIZATION

Test Number SCRUBBER 1-2

Point of emissions SCRUBBER 1 STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12	0	0	0	0			
	13	0	0	0	0			
	14	0	0	0	0			
	15	0	0	0	0			
	16	0	0	0	0			
	17	0	0	0	0			
	18	0	0	0	0			
	19	0	0	0	0			
	20	0	0	0	0			
	21	0	0	0	0			
	22	0	0	0	0			
	23	0	0	0	0			
	24	0	0	0	0			
	25	0	0	0	0			
	26	0	0	0	0			
	27	0	0	0	0			
	28	0	0	0	0			
	29	0	0	0	0			

Figure 9-2. Observation record.

Company NEFCO / S.W.A.

Observer FRANCIS K. MORLEY

Location 7501 N. JOG RD, WPA, FL

Type facility BIO SOLIDS PELLETTIZATION

Test Number SCRUBBER 1 - 2

Point of emissions SCRUBBER 1 STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	30	0	0	0	0			
	31	0	0	0	0			
	32	0	0	0	0			
	33	0	0	0	0			
	34	0	0	0	0			
	35	0	0	0	0			
	36	0	0	0	0			
	37	0	0	0	0			
	38	0	0	0	0			
	39	0	0	0	0			
	40	0	0	0	0			
	41	0	0	0	0			
	42	0	0	0	0			
	43	0	0	0	0			
	44	0	0	0	0			
	45	0	0	0	0			
	46	0	0	0	0			
	47	0	0	0	0			
	48	0	0	0	0			
	49	0	0	0	0			
	50	0	0	0	0			
	51	0	0	0	0			
	52	0	0	0	0			
	53	0	0	0	0			
	54	0	0	0	0			
	55	0	0	0	0			
	56	0	0	0	0			
	57	0	0	0	0			
	58	0	0	0	0			
	59	0	0	0	0			

**METHOD 9 - VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES - RECORDS**

**Figure 9-1. Record of visual determination of opacity.**

Company <i>NEFCO/SWA</i>				
Location <i>7501 N. JOG</i>				
Test No. <i>SCRUBBER 2-2</i>				
Date <i>SEPT. 17, 2009</i>				
Type of Facility <i>BIO SOLID SPREADER</i>				
Control Devices <i>DUST COLLECTION</i>				
Hours of Observation <i>1520 - 1620</i>				
Observer <i>FRANCIS K. MORLU</i>				
Observer Certification Date <i>8/12/09</i>		Observer Affiliation <i>SPES</i>		
Points of Emissions		Height of Discharge Point		
		Initial	Final	
CLOCK TIME		<i>1520</i>	<i>1620</i>	
OBSERVATION LOCATION				
Distance to Discharge		<i>650 FT</i>	<i>650 FT</i>	
Direction from Discharge		<i>100°</i>	<i>100°</i>	
Height of Observation Point		<i>30 FT</i>	<i>30 FT</i>	
BACKGROUND DESCRIPTION (Vegetation, Sky, etc.)		<i>SKY</i>	<i>SKY</i>	
WEATHER CONDITIONS				
Wind Direction		<i>SE</i>	<i>SE</i>	
Wind Speed		<i>0-15</i>	<i>0-15</i>	
Ambient Temperature		<i>87</i>	<i>85</i>	
SKY CONDITIONS (clear, overcast, %clouds, etc.)		<i>OVERCAST</i>	<i>OVERCAST</i>	
PLUME DESCRIPTION				
Color		<i>N/A</i>	<i>N/A</i>	
Distance Visible		<i>N/A</i>	<i>N/A</i>	
OTHER INFORMATION				
<b>SUMMARY OF AVERAGE OPACITY</b>				
Set Number	Time		Opacity	
	Start - End		Sum	Average
	<i>1520 - 1620</i>		<i>0</i>	<i>0</i>
Readings ranged from ___ to ___ % opacity.				
The source was/was not in compliance with ___ at the time evaluation was made.				

*J. H. W. [Signature]*

Diagram

From NSPS Method 9:

## 2. PROCEDURES

The observer qualified in accordance with Section 3 of this method shall use the following procedures for visually determining the opacity of emissions.

**2.1 Position.** The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and,

when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

**2.2 Field Records.** The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on a field data sheet (Figure 9-1). The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

**2.3 Observations.** Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals.

**2.3.1 Attached Steam Plumes.** When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

**2.3.2 Detached Steam Plume.** When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

**2.4 Recording Observations.** Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on an observational record sheet. (See Figure 9-2 for an example.) A minimum of 24 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

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Figure 9-2. Observation record.

Company NEFCO/SWA

Observer FRANCIS K. MORLO

Location 7501 N. JOG RD WPA, IL

Type facility BIO SOLIDS PELLETTIZATION

Test Number SCRUBBER 2 ~~STACK~~ 2

Point of emissions SCRUBBER 2 STACK

Hr	Min	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12	0	0	0	0			
	13	0	0	0	0			
	14	0	0	0	0			
	15	0	0	0	0			
	16	0	0	0	0			
	17	0	0	0	0			
	18	0	0	0	0			
	19	0	0	0	0			
	20	0	0	0	0			
	21	0	0	0	0			
	22	0	0	0	0			
	23	0	0	0	0			
	24	0	0	0	0			
	25	0	0	0	0			
	26	0	0	0	0			
	27	0	0	0	0			
	28	0	0	0	0			
	29	0	0	0	0			

-file-

**Sheplak, Scott**

---

**From:** Sheplak, Scott  
**Sent:** Thursday, April 29, 2010 2:20 PM  
**To:** 'Hernandez, Manuel'  
**Cc:** Marybeth Morrison; Hibbard, Cynthia  
**Subject:** RE: Title V Air Operation Permit Revision Application - Biosolids Pelletization Facility

I received the supplement regarding compliance testing on April 23, 2010; it contains the test results from the baghouses I needed. If you have a brochure handy on the biosolid pelletization units, I would appreciate it. Good project!

---

**From:** Hernandez, Manuel [mailto:HernandezMJ@cdm.com]  
**Sent:** Thursday, April 22, 2010 2:52 PM  
**To:** Sheplak, Scott  
**Cc:** Marybeth Morrison; Hibbard, Cynthia  
**Subject:** RE: Title V Air Operation Permit Revision Application - Biosolids Pelletization Facility

Good afternoon Mr. Sheplak. Thanks for the positive feedback on the responses. Cynthia Hibbard from our Cambridge office was our lead technical expert in preparing these.

We did want to provide you the field data sheets taken during the compliance testing and we noticed that we left these out from the response. I have prepared a copy of these and will be forwarding to you today.

Again, thanks for the feedback and feel free to contact me if you have any questions.

Sincerely,  
Manuel Hernandez, P.E.  
Project Manager  
CDM  
West Palm Beach  
561-689-3336

**From:** Hibbard, Cynthia [HibbardCS@cdm.com]  
**Sent:** Tuesday, June 15, 2010 9:25 AM  
**To:** Sheplak, Scott  
**Cc:** Hernandez, Manuel  
**Subject:** RE: Biosolids Pelletization Facility - emergency generator - File Number 0990234-016-AV, Title V Air Operation Permit Revision Application  
**Attachments:** Attachment2 rev.xlsx

Hi Scott -

I apologize for the delay in responding to your question.

The CORRECT answer is b. 410 kW engine power output rating. That is what the rules are based on. I have updated the attachment to correct the lb/hr emission rates, so that they are now based on the 410 kW engine power output rating, as they should have been originally. Everything else in the attachment is correct.

Thank you very much for catching this.

- Cynthia

-----Original Message-----

**From:** Sheplak, Scott [mailto:Scott.Sheplak@dep.state.fl.us]  
**Sent:** Monday, June 14, 2010 9:21 AM  
**To:** Hibbard, Cynthia  
**Cc:** Hernandez, Manuel  
**Subject:** Biosolids Pelletization Facility - emergency generator - File Number 0990234-016-AV, Title V Air Operation Permit Revision Application

Good morning,

This is the file you were going to review to see if the correct engine rating had been used to calculate the equivalent lbs./hour emissions.  
350 kW had been used in the application.

Which rating should be used?

- a. 350 kW electricity output rating.
- or
- b. 410 kW power output rating.

When I receive your response I can send the draft/proposed permit for internal review/issuance. I would expect a draft/proposed permit to be issued soon thereafter.

If you should have any questions, feel free to contact me by telephone at 850/921-9532 or by e-mail.

Sincerely,

Scott M. Sheplak, P.E., CPM (Certified Public Manager) DEP - Title V Section Mail Station #5505 2600 Blair Stone Road Tallahassee, FL 32399

Attachment 2  
Solid Waste Authority  
Biosolids Pelletization Facility

**Emergency Generator (EU016)**

60-Hz Diesel Generator Set

Manufacturer	Kohler
Model No.	350REOZDD
Emergency standby	
Power Output Rating	550 bhp 410 kW
Electricity Output Rating	350 kW

The Generator is a U.S.-EPA-certified Tier 3 engine (40 CFR 89), and is in compliance with the emission standards of 40 CFR Part 60 Subpart IIII for CI engines.  
(see attached specifications)

Emissions Standards:

From Table 1 of 40 CFR 89.112 (g/kW-hr)

Engine Power Output Rating (kW)	Tier	Model Year	NOx	HC	NMHC + NOx	CO	PM
225≤kW≤450	Tier 3	2006	-	-	4.0	3.5	0.2

For this generator (lb/hr)

Engine Power Output Rating (kW)	Tier	Model Year	NOx	HC	NMHC + NOx	CO	PM
410	Tier 3	2006	-	-	3.6	3.2	0.18





**RECEIVED**

**JUN 15 2010**

**BUREAU OF  
AIR REGULATION**

June 14, 2010

Mr. Jonathan Holtom P.E.  
Title V Permit Division  
State of Florida Department of Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32301

RE: North County Resource Recovery Facility – Unit 1 and Unit 2  
FDEP Title V Air Operations Permit (No. 0990234-013 AV) and PSD-FL-108  
Title V Operating Permit Revision Application

Dear Mr. Holtom

The Solid Waste Authority of Palm Beach County (“SWA”) is the owner of the North County Resource Recovery Facility (“Facility”), a large Municipal Waste Combustor that was constructed under air construction permit (No. PSD-FL-108) and operates under FDEP Title V Air Operations Permit (No. 0990234-013 AV).

Attached are the following documents for this Title V Air permit revision application:

- Section A: Completed Title V Permit Revision Application Forms
- Section B: Air Construction Permit/modified PSD permit.

On September 18, 2009, the FDEP issued an Air Construction permit #0990234-015 AC and modified PSD permit PSD-FL-108H authorizing a refurbishment project which includes the installation of new air pollution control equipment. The AC permit also included changes to three conditions in the PSD permit (see Condition 19 of the AC permit). The purpose of this Title V operating permit revision application is to incorporate these changed conditions, described below, into the current Title V Operating Permit. It is our understanding that under Rule 62-213.412(2), F.A.C. these conditions will become immediately effective once this application is submitted to EPA and FDEP.

1. Revise facility description and A.1.0 Permitted Capacity for EU 001 & EU 002 – “The NCRRF is authorized to operate the two existing RDF Boilers to the maximum steam production rating of 324,000 lbs/hour per unit based on a 4-hour block average”. Revise the heat input value from 412.5 MMBtu/hr to 427.5 MMBtu/hr (24-hour average).
2. Remove the 1-hour CO permit limit of 400 ppm<sub>vd</sub> corrected to 7% O<sub>2</sub> and replace with a 4 hour block average CO concentration limit of 400 ppm<sub>vd</sub> corrected to 7% O<sub>2</sub>.
3. Remove the absolute temperature limit of the exhaust gas of 300° F (Title V operating permit Condition R18). The existing Title V Permit already includes the temperature

limit language consistent with NSPS CFR 60 Subpart Cb (Title V Operating Permit Condition O.2)

We look forward to working with the FDEP as this application for a Title V operating permit revision is reviewed. If you have any questions, please contact Mary Beth Morrison at (561) 640- 4000 ext. 4613.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Mark M." followed by a long horizontal flourish.

Mark Hammond  
Executive Director  
Solid Waste Authority of Palm Beach County

Carol Kemker (EPA Region 4, Atlanta, GA)  
Jeff Koerner (FDEP, Tallahassee)  
Mike Halpin (FDEP, Tallahassee)  
Lennon Anderson (FDEP Southeast District Office)  
Mary Beth Morrison (SWA)  
Leah Richter (Malcolm Pirnie)  
Chris Tilman (Malcolm Pirnie)

Enclosure



# Department of Environmental Protection RECEIVED

## Division of Air Resource Management APPLICATION FOR AIR PERMIT - LONG FORM

JUN 15 2010  
BUREAU OF AIR REGULATION

### I. APPLICATION INFORMATION

**Air Construction Permit** – Use this form to apply for an air construction permit:

- For any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

**Air Operation Permit** – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial, revised, or renewal Title V air operation permit.

To ensure accuracy, please see form instructions.

#### Identification of Facility

1. Facility Owner/Company Name: <b>Solid Waste Authority of Palm Beach County</b>	
2. Site Name: <b>North County Resource Recovery Facility (NCRRF)</b>	
3. Facility Identification Number: <b>0990234</b>	
4. Facility Location... Street Address or Other Locator: <b>7501 North Jog Road</b> City: <b>West Palm Beach</b> County: <b>Palm Beach</b> Zip Code: <b>33412</b>	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

#### Application Contact

1. Application Contact Name: <b>Christopher Tilman, P.E.</b>	
2. Application Contact Mailing Address... Organization/Firm: <b>Malcolm Pirnie, Inc.</b> Street Address: <b>4315 Metro Parkway, Suite 520</b> City: <b>Fort Myers</b> State: <b>Florida</b> Zip Code: <b>33916</b>	
3. Application Contact Telephone Numbers... Telephone: <b>(239) 332 - 1300</b> ext.      Fax: <b>(239) 332 - 1789</b>	
4. Application Contact E-mail Address: <b><u>ctilman@pirnie.com</u></b>	

#### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	3. PSD Number (if applicable):
2. Project Number(s):	4. Siting Number (if applicable):

## APPLICATION INFORMATION

### Purpose of Application

**This application for air permit is being submitted to obtain: (Check one)**

#### **Air Construction Permit**

- Air construction permit.
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

#### **Air Operation Permit**

- Initial Title V air operation permit.
- Title V air operation permit revision.
- Title V air operation permit renewal.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

#### **Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)**

- Air construction permit and Title V permit revision, incorporating the proposed project.
- Air construction permit and Title V permit renewal, incorporating the proposed project.

**Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:**

- I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

### Application Comment

**This is a Title V Permit Revision application for the Solid Waste Authority of Palm Beach County's (Authority) NCRRF Refurbishment Project (Project). The Facility was issued an Air Construction Permit 0990234-015-AC/PSD-FL-108H for the refurbishment of the two boilers which combust refuse-derived fuel (RDF) to create steam for the generation of electricity.**

**Three requested changes to permit conditions in the Title V operating permit were included in the AC permit application and were included in the AC permit. This Title V permit revision application is to request that these three conditions be incorporated into the facility's existing Title V operating permit.**



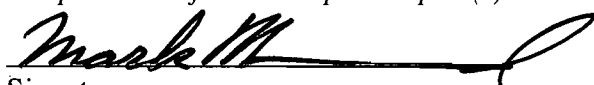
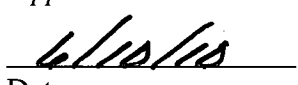
**Owner/Authorized Representative Statement**

**Complete if applying for an air construction permit or an initial FESOP.**

1. Owner/Authorized Representative Name :
2. Owner/Authorized Representative Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Owner/Authorized Representative Telephone Numbers... Telephone: ext. Fax:
4. Owner/Authorized Representative E-mail Address:
5. Owner/Authorized Representative Statement:  <i>I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.</i>  _____ Signature  _____ Date

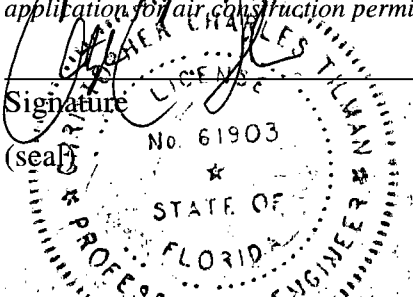
**Application Responsible Official Certification**

**Complete if applying for an initial, revised, or renewal Title V air operation permit or concurrent processing of an air construction permit and revised or renewal Title V air operation permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."**

1. Application Responsible Official Name: <b>Mark Hammond, Executive Director</b>
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input checked="" type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source, CAIR source, or Hg Budget source.
3. Application Responsible Official Mailing Address... Organization/Firm: <b>Mark Hammond, Executive Director</b> Street Address: <b>Solid Waste Authority of Palm Beach County</b> City: <b>7501 North Jog Road</b> State: <b>FL</b> Zip Code: <b>33412</b>
4. Application Responsible Official Telephone Numbers... Telephone: <b>(561) 640 - 4000</b> ext. Fax: <b>(561) 640 - 3400</b>
5. Application Responsible Official E-mail Address: <b><u>mhammond@swa.org</u></b>
6. Application Responsible Official Certification: <p><i>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.</i></p> <p> </p> <p>Signature Date</p>

**Professional Engineer Certification**

1. Professional Engineer Name: <b>Christopher Tilman</b> Registration Number: <b>61903</b>
2. Professional Engineer Mailing Address... Organization/Firm: <b>Malcolm Pirnie, Inc.</b> Street Address: <b>4315 Metro Parkway, Suite 520</b> City: <b>Fort Myers</b> State: <b>Florida</b> Zip Code: <b>33916</b>
3. Professional Engineer Telephone Numbers... Telephone: <b>(239) 332 - 1300</b> ext. Fax: <b>(239) 332 - 1789</b>
4. Professional Engineer E-mail Address: <b>ctilman@pirnie.com</b>
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i>  <p>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</p> <p>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</p> <p>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/>, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</p> <p>(4) If the purpose of this application is to obtain an air construction permit (check here <input type="checkbox"/>, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</p> <p>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input checked="" type="checkbox"/>, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</p>

Signature \_\_\_\_\_  


6-7-10  
 Date \_\_\_\_\_

\* Attach any exception to certification statement.



## II. FACILITY INFORMATION

### A. GENERAL FACILITY INFORMATION

#### Facility Location and Type

1. Facility UTM Coordinates... Zone <b>17</b> East (km) <b>585.82</b> North (km) <b>2960.474</b>		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) <b>26° 45' 53" N</b> Longitude (DD/MM/SS) <b>80° 08' 12" W</b>	
3. Governmental Facility Code: <b>(3) County</b>	4. Facility Status Code: <b>(A) Active</b>	5. Facility Major Group SIC Code: <b>(49) Electric, Gas and Sanitary Services</b>	6. Facility SIC(s): <b>Primary: 4953</b>
7. Facility Comment :			

#### Facility Contact

1. Facility Contact Name: <b>Mark Hammond, Executive Director</b>
2. Facility Contact Mailing Address... Organization/Firm: <b>Solid Waste Authority of Palm Beach County</b> Street Address: <b>7501 North Jog Road</b> City: <b>West Palm Beach</b> State: <b>FL</b> Zip Code: <b>33412</b>
3. Facility Contact Telephone Numbers: Telephone: <b>(561) 640 - 4000</b> ext. Fax: <b>(561) 640 - 3400</b>
4. Facility Contact E-mail Address: <b><u>mhammond@swa.org</u></b>

#### Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name: <b>Mark Hammond, Executive Director</b>
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: <b>Solid Waste Authority of Palm Beach County</b> Street Address: <b>7501 North Jog Road</b> City: <b>West Palm Beach</b> State: <b>FL</b> Zip Code: <b>33412</b>
3. Facility Primary Responsible Official Telephone Numbers... Telephone: <b>(561) 640 - 4000</b> ext. Fax: <b>(561) 640 - 4000</b>
4. Facility Primary Responsible Official E-mail Address: <b><u>mhammond@swa.org</u></b>

**Facility Regulatory Classifications**

**Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a “major source” and a “synthetic minor source.”**

1. <input type="checkbox"/> Small Business Stationary Source	<input type="checkbox"/> Unknown
2. <input type="checkbox"/> Synthetic Non-Title V Source	
3. <input checked="" type="checkbox"/> Title V Source	
4. <input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. <input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. <input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)	
7. <input type="checkbox"/> Synthetic Minor Source of HAPs	
8. <input type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. <input checked="" type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. <input type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. <input type="checkbox"/> Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment:	

**List of Pollutants Emitted by Facility**

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]
PM10	(A) Major Pollutant	N
NO <sub>x</sub>	(A) Major Pollutant	N
CO	(A) Major Pollutant	N
PM	(A) Major Pollutant	N
SO <sub>2</sub>	(A) Major Pollutant	N
H114	(B) Facility-regulated pollutant, not major or synthetic minor	N
H027	(B) Facility-regulated pollutant, not major or synthetic minor	N
H021	(B) Facility-regulated pollutant, not major or synthetic minor	N
D/F	(B) Facility-regulated pollutant, not major or synthetic minor	N
H106	(A) Major Pollutant	N
FL	(B) Facility-regulated pollutant, not major or synthetic minor	N
PB	(B) Facility-regulated pollutant, not major or synthetic minor	N
VOC	(B) Facility-regulated pollutant, not major or synthetic minor	N
PM/MWC Metals	(A) Major Pollutant	N
SO <sub>2</sub> / H106	(A) Major Pollutant	N



### C. FACILITY ADDITIONAL INFORMATION

#### Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _ <input checked="" type="checkbox"/> Previously Submitted, Date: _____
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _ <input checked="" type="checkbox"/> Previously Submitted, Date: _____
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _ <input checked="" type="checkbox"/> Previously Submitted, Date: _____

#### Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (existing permitted facility)
2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL): <input type="checkbox"/> Attached, Document ID _____
3. Rule Applicability Analysis: <input type="checkbox"/> Attached, Document ID _____
4. List of Exempt Emissions Units: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable

### C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

#### Additional Requirements for FESOP Applications

- |  |
|--|
| 1. List of Exempt Emissions Units:<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (no exempt units at facility) |
|--|

#### Additional Requirements for Title V Air Operation Permit Applications

- |  |
|--|
| 1. List of Insignificant Activities: (Required for initial/renewal applications only)<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (revision application)   |
| 2. Identification of Applicable Requirements: (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____<br><input checked="" type="checkbox"/> Not Applicable (revision application with no change in applicable requirements)   |
| 3. Compliance Report and Plan: (Required for all initial/revision/renewal applications)<br><input type="checkbox"/> Attached, Document ID: _____ N/A<br>Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing. |
| 4. List of Equipment/Activities Regulated under Title VI: (If applicable, required for initial/renewal applications only)<br><input type="checkbox"/> Attached, Document ID: _____<br><input type="checkbox"/> Equipment/Activities Onsite but Not Required to be Individually Listed<br><input checked="" type="checkbox"/> Not Applicable  |
| 5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only)<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable   |
| 6. Requested Changes to Current Title V Air Operation Permit:<br><input checked="" type="checkbox"/> Attached, Document ID: <u>Appendix A</u> <input type="checkbox"/> Not Applicable  |

**C. FACILITY ADDITIONAL INFORMATION (CONTINUED)**

**Additional Requirements for Facilities Subject to Acid Rain, CAIR, or Hg Budget Program**

1. Acid Rain Program Forms:

Acid Rain Part Application (DEP Form No. 62-210.900(1)(a)):

Attached, Document ID: \_\_\_\_\_  Previously Submitted, Date: \_\_\_\_\_

Not Applicable (not an Acid Rain source)

Phase II NO<sub>x</sub> Averaging Plan (DEP Form No. 62-210.900(1)(a)1.):

Attached, Document ID: \_\_\_\_\_  Previously Submitted, Date: \_\_\_\_\_

Not Applicable

New Unit Exemption (DEP Form No. 62-210.900(1)(a)2.):

Attached, Document ID: \_\_\_\_\_  Previously Submitted, Date: \_\_\_\_\_

Not Applicable

2. CAIR Part (DEP Form No. 62-210.900(1)(b)):

Attached, Document ID: \_\_\_\_\_  Previously Submitted, Date: \_\_\_\_\_

Not Applicable (not a CAIR source)

3. Hg Budget Part (DEP Form No. 62-210.900(1)(c)):

Attached, Document ID: \_\_\_\_\_  Previously Submitted, Date: \_\_\_\_\_

Not Applicable (not a Hg Budget unit)

**Additional Requirements Comment**

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**NOTICE OF FINAL PERMIT**

In the Matter of an  
Application for Permit by:

Solid Waste Authority of Palm Beach County  
7501 North Jog Road  
West Palm Beach, Florida 33412

Air Permit No. 0990234-015-AC/PSD-FL-108H  
North County Resource Recovery Facility  
Refurbishment of Municipal Solid Waste  
Combustor Units 1 and 2

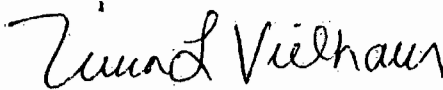
*Authorized Representative:*

Mr. Mark Hammond, Executive Director

Enclosed is Final Air Permit No. 0990234-015-AC/PSD-FL-108H, which authorizes the refurbishment of municipal solid waste combustor Units 1 and 2. The new equipment will be installed at 6501 North Jog Road in West Palm Beach, Palm Beach County, Florida. This permit is issued pursuant to Chapter 403, Florida Statutes (F.S.).

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S. by filing a Notice of Appeal pursuant to 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 of Appeal must be filed within 30 days from the date this order is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.



Trina Vielhauer, Chief  
Bureau of Air Regulation





# Florida Department of Environmental Protection

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

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

## PERMITTEE

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

*Authorized Representative:*

Mark Hammond, Executive Director

North County Resource Recovery Facility  
Units 1 and 2 Refurbishment Project

Facility ID No. 0990234

SIC No. 4953

Air Permit No. 0990234-015-AC/PSD-FL-108H

Permit Expires: December 31, 2011

## PROJECT AND LOCATION

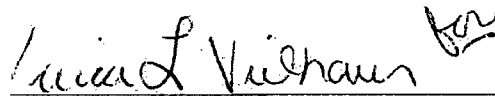
This permit authorizes the following for existing municipal solid waste combustors Units 1 and 2 at the existing North County Resource Recovery Facility: installation of new selective non-catalytic reduction (SNCR) systems; installation of new activated carbon injection (ACI) systems; replacement of the existing electrostatic precipitator systems with new fabric filter systems; installation of new combustion control systems; installation of improved over-fire air (OFA) systems; replacement of the existing Spray Dryer Absorber (SDA) systems with new SDA systems; and maintenance, replacement and repair of other components. The permit also makes the following revisions to original Permit No. PSD-FL-108 (as modified): clarifies the permitted capacity as the maximum steam production rate; revises the short-term averaging period for the carbon monoxide standard from a 1-hour to a 4-hour average; and replaces the maximum temperature at the dry scrubber outlet with the federal temperature monitoring requirements in Subpart Eb of Part 60, Title 40, Code of Federal Regulations. The existing facility is located at 6501 North Jog Road in West Palm Beach, Palm Beach County, Florida. The map coordinates are: Zone 17; 585.82 km East; and 2960.474 km North.

## STATEMENT OF BASIS

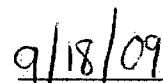
This air pollution construction permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, Florida Administrative Code (F.A.C.). The permittee is authorized to install the proposed equipment in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department. This air construction permit supplements all other valid air construction and operation permits.

## CONTENTS

- Section 1. General Information
- Section 2. Administrative Requirements
- Section 3. Emissions Units Specific Conditions
- Section 4. Appendices



Joseph Kahn, Director  
Division of Air Resource Management



(Date)

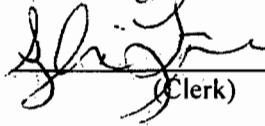
**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Final Permit (including the "Final Permit") was sent by electronic mail (with received receipt requested) before the close of business on 9/21/09 to the person(s) listed:

Mr. Mark Hammond, Solid Waste Authority of Palm Beach County: ([mhammond@swa.org](mailto:mhammond@swa.org))  
Mr. Christopher Tilman, P.E., Malcolm Pirnie, Inc.: ([ctilman@pirnie.com](mailto:ctilman@pirnie.com))  
Mr. Don Elias, RTP Environmental: ([elias@rtpenv.com](mailto:elias@rtpenv.com))  
Mr. Michael Halpin, DEP Siting Coordination Office: ([mike.halpin@dep.state.fl.us](mailto:mike.halpin@dep.state.fl.us))  
Mr. James Stormer, Palm Beach County Health Department: ([james\\_stormer@doh.state.fl.us](mailto:james_stormer@doh.state.fl.us))  
Mr. Lennon Anderson, DEP Southeast District Office: ([lennon.anderson@dep.state.fl.us](mailto:lennon.anderson@dep.state.fl.us))  
Ms. Heather Abrams, EPA Region 4: ([abrams.heather@epamail.epa.gov](mailto:abrams.heather@epamail.epa.gov))  
Ms. Kathleen Forney, EPA Region 4: ([forney.kathleen@epamail.epa.gov](mailto:forney.kathleen@epamail.epa.gov))  
Ms. Catherine Collins, Fish and Wildlife Service: ([catherine\\_collins@fws.gov](mailto:catherine_collins@fws.gov))  
Ms. Vickie Gibson, DEP BAR Reading File: ([victoria.gibson@dep.state.fl.us](mailto:victoria.gibson@dep.state.fl.us))

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

  
\_\_\_\_\_  
(Clerk)

9/21/09  
\_\_\_\_\_  
(Date)

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**NOTICE OF FINAL PERMIT**

In the Matter of an  
Application for Permit by:

Solid Waste Authority of Palm Beach County  
7501 North Jog Road  
West Palm Beach, Florida 33412

Air Permit No. 0990234-015-AC/PSD-FL-108H  
North County Resource Recovery Facility  
Refurbishment of Municipal Solid Waste  
Combustor Units 1 and 2

*Authorized Representative:*

Mr. Mark Hammond, Executive Director

Enclosed is Final Air Permit No. 0990234-015-AC/PSD-FL-108H, which authorizes the refurbishment of municipal solid waste combustor Units 1 and 2. The new equipment will be installed at 6501 North Jog Road in West Palm Beach, Palm Beach County, Florida. This permit is issued pursuant to Chapter 403, Florida Statutes (F.S.).

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S. by filing a Notice of Appeal pursuant to 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 of Appeal must be filed within 30 days from the date this order is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

Trina Vielhauer, Chief  
Bureau of Air Regulation

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Final Permit (including the "Final Permit") was sent by electronic mail (with received receipt requested) before the close of business on \_\_\_\_\_ to the person(s) listed:

Mr. Mark Hammond, Solid Waste Authority of Palm Beach County: ([mhammond@swa.org](mailto:mhammond@swa.org))  
Mr. Christopher Tilman, P.E., Malcolm Pirnie, Inc.: ([ctilman@pirnie.com](mailto:ctilman@pirnie.com))  
Mr. Don Elias, RTP Environmental: ([elias@rtpenv.com](mailto:elias@rtpenv.com))  
Mr. Michael Halpin, DEP Siting Coordination Office: ([mike.halpin@dep.state.fl.us](mailto:mike.halpin@dep.state.fl.us))  
Mr. James Stormer, Palm Beach County Health Department: ([james\\_stormer@doh.state.fl.us](mailto:james_stormer@doh.state.fl.us))  
Mr. Lennon Anderson, DEP Southeast District Office: ([lennon.anderson@dep.state.fl.us](mailto:lennon.anderson@dep.state.fl.us))  
Ms. Heather Abrams, EPA Region 4: ([abrams.heather@epamail.epa.gov](mailto:abrams.heather@epamail.epa.gov))  
Ms. Kathleen Forney, EPA Region 4: ([forney.kathleen@epamail.epa.gov](mailto:forney.kathleen@epamail.epa.gov))  
Ms. Catherine Collins, Fish and Wildlife Service: ([catherine\\_collins@fws.gov](mailto:catherine_collins@fws.gov))  
Ms. Vickie Gibson, DEP BAR Reading File: ([victoria.gibson@dep.state.fl.us](mailto:victoria.gibson@dep.state.fl.us))

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

\_\_\_\_\_  
(Clerk)

\_\_\_\_\_  
(Date)

## FINAL DETERMINATION

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### PERMITTEE

Solid Waste Authority of Palm Beach County  
7501 North Jog Road  
West Palm Beach, Florida 33412

### PERMITTING AUTHORITY

Florida Department of Environmental Protection (Department)  
Division of Air Resource Management  
Bureau of Air Regulation, New Source Review Section  
2600 Blair Stone Road, MS #5505  
Tallahassee, Florida 32399-2400

### PROJECT

Air Permit No. 0990234-015-AC/PSD-FL-108H  
Minor Air Construction Permit  
North County Resource Recovery Facility

The proposed project is to refurbish Municipal Solid Waste Combustors (MSWC) Nos. 1 and 2 by: replacing the existing electrostatic precipitators with fabric filters to control particulate matter; installing selective non-catalytic reduction systems to reduce nitrogen oxide emissions; installing new activated carbon injection systems to enhance the removal of metal emissions; improving the over-fire air system to optimize combustion; installing new automated combustion control systems; replacing the existing spray dryer absorbers and lime injectors to control sulfur dioxide; and other related maintenance, replacement and repairs.

### NOTICE AND PUBLICATION

The Department distributed a draft minor air construction permit package on July 31, 2009. The applicant published the Public Notice in The Palm Beach Post on August 5, 2009. The Department received the proof of publication on August 10, 2009. The Department granted an extension of time to file a petition for an administrative hearing on August 17, 2009. The extension of time expired on September 15, 2009.

### COMMENTS

No comments were received from the public, the Air pollution Control Section of the Palm Beach County Health Department or the Department's Southeast District Office. On September 3, 2009, the Department received comments from the applicant. The following summarizes the comments and the Department's response.

#### Permit

1. *Section 3. Subsection A. Description.* Continuous Monitoring Systems. The permittee requests that the reference to a continuous monitoring system (CMS) for "stack gas flow rate" be removed. A reference to the CMS for "steam production rate" should be added.

*Response:* The permittee uses the F-factor methodology to determine flue gas flow rate in accordance with Rule 62-210.370(2)(b), Florida Administrative Code (F.A.C.), does not operate a CMS for the stack gas flow rate and does operate a CMS to monitor the steam production rate. The Department revised the text as requested.

2. *Section 3. Subsection A. Specific Condition 7. Combustion Control and OFA Air System.* In the first sentence, the permittee requests that the word "unwanted" be inserted before the term "products of combustion".

*Response:* The Department revised the text to read, "... minimizing the products of incomplete combustion."

## FINAL DETERMINATION

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3. *Section 3. Subsection A. Specific Condition 8. Activate Carbon Silo Baghouse.* The permittee requests that "Activate" be changed to "Activated".

*Response:* The Department agrees and revised as requested.

4. *Section 3. Subsection A. Condition 16.d.* The permittee requests that the requirements for performance testing to demonstrate compliance with the nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO) and sulfur dioxide (SO<sub>2</sub>) permit limits be the same as those specified in Condition 4 of Permit No. PSD-FL-108A.

*Response:* Condition 4 in Permit No. PSD-FL-108A specifies the following methods for demonstrating compliance with the emissions standards for these pollutants: EPA Method 10 for CO; EPA Method 7, 7A, 7B, 7C, 7D or 7E for NO<sub>x</sub>; and EPA Method 6, 6C or 8 for SO<sub>2</sub>. Condition 3 in Permit No. PSD-FL-108A specifies the following averaging periods for these pollutants: 24-hour average for NO<sub>x</sub>, 1-hour and 24-hour for CO and 24-hour for SO<sub>2</sub>. Therefore, to demonstrate compliance with the emissions standards, data must be collected for at least the required averaging period. Condition 14 in Permit No. PSD-FL-108A also requires installation of continuous emissions monitoring systems (CEMS) to report emissions in excess of the standards for CO, NO<sub>x</sub> and SO<sub>2</sub> emissions. The EPA tests methods mentioned above are used during the relative accuracy test assessments to properly maintain the required CEMS. Condition A.4.5 in Title V Permit No. 0990234-010-AV requires the installation, operation and maintenance of CEMS to, "... ensure and verify continuous compliance with the emissions limitations in this permit." Condition 16.d of the draft permit for this project requires, "Compliance with the emissions standards for CO, NO<sub>x</sub> and SO<sub>2</sub> shall be demonstrated by data collected from the required CEMS." Since the plant must continuously demonstrate compliance for these pollutants by CEMS, the Department maintains that the draft permit is consistent with all current valid permit requirements and no changes were made.

5. *Section 3. Subsection A. Specific Condition 18. Revised Permit Conditions.* Placard Page for PSD-FL-108. 2<sup>nd</sup> Paragraph. The permittee requests that additional language be added to this paragraph to reflect that the refuse derived fuel (RDF) has a range of heating values between 4,500 to 6,200 British thermal units (Btu) per pound, which corresponds to heat input rates of 337.5 to 465.0 million Btu/hr, respectively, and that compliance is to be based on steam production rather than heat input.

*Response:* The revised permit condition now reads, "The North County Regional Resource Recovery Facility is authorized to operate the two existing RDF boilers to the maximum steam production rating of 324,000 lb per hour per unit based on a 4-hour block average, subject to the General and Specific Conditions stated herein. At the municipal waste combustor unit capacity of 900 tons per day and a reference heating value of 5,700 Btu/lb of RDF, the maximum heat input rate is 427.5 MMBtu/hour (24-hour average)." The Department believes that the permitted capacity of each unit is clearly stated in the draft permit as: a maximum steam production rating of 324,000 lb per hour (4-hour block average) and 900 tons per day. As stated earlier, a CMS will be used to determine compliance with the maximum steam production rate. The Department acknowledges the variability of the heating value of RDF, which could even be outside of the suggested range (4,500 to 6,200 Btu/lb) for a given sample. The maximum heat input rate (daily average) depends on the municipal waste combustor unit capacity (900 tons per day) and the actual heating value of the RDF as fired. No changes were made.

6. *Appendix C. Condition 3. Excess Emissions Allowed.* The permittee requests that the generic rule language be clarified to acknowledge the language in Condition E.3.a of current Title V air operation Permit No. 0990234-010-AV.

*Response:* It is not the Department's intent to add new requirements regarding excess emissions for emissions units 001 and 002. Appendix C (Common Conditions) is a set of common requirements that are generally applicable to all emissions units. To clarify, the Department added the following text to Condition 3 in Appendix C, "Condition E.3.a in Permit No. 0990234-010-AV specifies the allowable excess emissions for emissions units 001 and 002."

## FINAL DETERMINATION

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7. *Appendix C. Condition 11. Annual Operating Report.* The permittee requests that the due date for the Annual Operating Report (AOR) reflect the new rule language, which is April 1<sup>st</sup>.

*Response:* The Department agrees and changed the deadline from March 1<sup>st</sup> to April 1<sup>st</sup>.

### Technical Evaluation and Preliminary Determination (TEPD)

8. *Page 6 of 13. Selective Non-Catalytic Reduction (SNCR) System.* The permittee requests a change in the ammonia slip value from 10 to 15 ppmvd @ 15% oxygen.

*Response:* Condition 4 in the draft permit identifies the design target ammonia slip value as 15 ppmvd @ 15% oxygen. The TEPD also identifies 15 ppmvd @ 15% oxygen in the first paragraph describing the SNCR system. The second reference to the design target ammonia slip value being 10 ppmvd @ 15% oxygen is a typographical error. The Department acknowledges the error in this Final Determination and will post a revised TEPD on its web site at: <http://www.dep.state.fl.us/air/emission/apds/default.asp>.

9. *Page 8 of 13. Placard Page for PSD-FL-108. 2<sup>nd</sup> Paragraph.* The permittee requests that additional language be added to this paragraph to reflect that the RDF has a range of heating values between 4,500 to 6,200 British thermal units (Btu) per pound, which corresponds to heat input rates of 337.5 to 465.0 million Btu/hr, respectively, and that compliance is to be based on steam production rather than heat input.

*Response:* As discussed above in Response No. 5, the Department acknowledges the comment, but no changes were made.

10. *Page 11 of 13. Attachment A. Air Pollution Control System Upgrade.* The permittee requests a revision to the text describing the proposed work to be done to the Spray Dryer Absorber (SDA). The original scope included two refurbishments of the upper and lower SDA internals, including upper cones, turning vanes, diffusers, internal stiffeners for the supports and 3-foot (conical and cylindrical) bands at the hopper to cylinder weld. The revised scope includes two new SDA with five lime injection nozzles to increase contact efficiency and a live bin activator to enhance fly ash removal. The original lime slaking, tanks and feed equipment will remain.

*Response:* The Department acknowledges the request and added the changes to Attachment A in Appendix D of the permit. Also, the following text was added as Condition 9 to the final permit and the subsequent conditions were renumbered.

**“Spray Dryer Absorber (SDA):** The permittee shall construct, operate and maintain a new SDA system on each unit to control acid gases from the process. A live bin activator will be installed to enhance fly ash control. The existing lime slaking, tanks and feed equipment will be utilized. The following is based on the preliminary design information and is subject to change.

*Each SDA system will be designed to treat 100% of the flue gas leaving the RDF MSWC. To improve the control efficiency, the new SDA will be equipped with multiple lime injection nozzles and be slightly larger with baffles to provide an increased residence time.*

The permittee shall update the Permitting and Compliance Authorities with revised information as necessary during final design and installation. [Application, Design and Rule 62-4.070(3), F.A.C.]”

11. *Page 12 of 13. Attachment A. Balance of Plant/Facility Materials or Equipment.* The permittee requests a minor correction to the listed voltages for the transformer and switch gear.

*Response:* The Department acknowledges the request and made the changes to Attachment A in Appendix D of the permit.

### CONCLUSION

The final action of the Department is to issue the permit with the minor changes, corrections and clarifications as described above.

## PERMITTEE

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

*Authorized Representative:*

Mark Hammond, Executive Director

North County Resource Recovery Facility  
Units 1 and 2 Refurbishment Project  
Facility ID No. 0990234  
SIC No. 4953  
Air Permit No. 0990234-015-AC/PSD-FL-108H  
Permit Expires: December 31, 2011

## PROJECT AND LOCATION

This permit authorizes the following for existing municipal solid waste combustors Units 1 and 2 at the existing North County Resource Recovery Facility: installation of new selective non-catalytic reduction (SNCR) systems; installation of new activated carbon injection (ACI) systems; replacement of the existing electrostatic precipitator systems with new fabric filter systems; installation of new combustion control systems; installation of improved over-fire air (QFA) systems; replacement of the existing Spray Dryer Absorber (SDA) systems with new SDA systems; and maintenance, replacement and repair of other components. The permit also makes the following revisions to original Permit No. PSD-FL-108 (as modified): clarifies the permitted capacity as the maximum steam production rate; revises the short-term averaging period for the carbon monoxide standard from a 1-hour to a 4-hour average; and replaces the maximum temperature at the dry scrubber outlet with the federal temperature monitoring requirements in Subpart Eb of Part 60, Title 40, Code of Federal Regulations. The existing facility is located at 6501 North Jog Road in West Palm Beach, Palm Beach County, Florida. The map coordinates are: Zone 17; 585.82 km East; and 2960.474 km North.

## STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, Florida Administrative Code (F.A.C). The permittee is authorized to install the proposed equipment in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department. This air construction permit supplements all other valid air construction and operation permits.

## CONTENTS

- Section 1. General Information
- Section 2. Administrative Requirements
- Section 3. Emissions Units Specific Conditions
- Section 4. Appendices

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Joseph Kahn, Director  
Division of Air Resource Management

(Date)



## SECTION 2. ADMINISTRATIVE REQUIREMENTS

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### FACILITY AND PROJECT DESCRIPTION

The existing facility is a municipal solid waste combustor (MSWC) plant designed to process 2,000 tons per day of municipal solid waste. 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 tons per day of incoming MSW. The boiler plant includes two Babcock & Wilcox boilers (Units 1 and 2), each designed with a steam flow rating of 324,000 lb/hour based on a unit design rate of 900 tons/day of RDF. Currently, emissions from each boiler are controlled by a Babcock & Wilcox spray dryer absorber followed by a Babcock & Wilcox 4-field electrostatic precipitator (ESP). Each ESP has a gas flow rating of 198,000 acfm and is designed to operate in compliance with three of the four fields in service. The turbine-generator rating of 62 MW matches the full output of the boilers.

A Class I Landfill and a Class III Landfill are also located on this property: Each landfill operates its own landfill gas collection system with associated flares. Additional facilities include storage and handling facilities for RDF waste as well as storage and handling facilities for ash and ash treatment. The following units are affected by this air construction permit.

ARMS ID	Emission Unit Description
001	Municipal Solid Waste Boiler Unit 1
002	Municipal Solid Waste Boiler Unit 2

### REGULATORY CLASSIFICATIONS

- The facility is a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C., for the Prevention of Significant Deterioration (PSD) of Air Quality.
- The facility is subject to power plant siting certification PA84-20.
- The facility operates one or more units subject to applicable subparts of the New Source Performance Standards (NSPS) in Part 60, Title 40 of the Code of Federal Regulations. (40 CFR 60).
- The facility operates one or more units subject to applicable subpart of the National Emission Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

## SECTION 2. ADMINISTRATIVE REQUIREMENTS

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1. Permitting Authority: All documents related to applications for permits to construct, modify, or operate emissions units at this facility shall be submitted to the Bureau of Air Regulation of the Florida Department of Environmental Protection (DEP) at 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400. Copies of all permit applications shall also be sent to the Compliance Authority.
2. Compliance Authority: All documents related to compliance activities such as reports, tests and notifications shall be submitted to the Department's Southeast District Office at 400 North Congress Avenue, West Palm Beach, Florida 33401.
3. Appendices: The following Appendices are attached as part of this permit:
  - a. Appendix A. Citation Formats and Glossary of Common Terms;
  - b. Appendix B. General Conditions;
  - c. Appendix C. Common Conditions; and
  - d. Appendix D: Attachment A.
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S. and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state or local permitting regulations. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C., and follow the application procedures in Chapter 62-4, F.A.C. [Chapter 62-4 and Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. Construction and Expiration: The permit expiration date includes sufficient time to complete construction, perform required testing, submit test reports and submit an application for a Title V air operation permit revision to the Department. Approval to construct shall become invalid if construction is not completed within a reasonable time. The Department may extend the expiration date upon a satisfactory showing that an extension is justified. Such a request shall be submitted to the Department's Bureau of Air Regulation at least 60 days prior to the expiration of this permit. [Rules 62-4.070(4), 62-4.080 and 62-210.300(1), F.A.C.]
8. Application for Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V air operation permit revision is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit revision at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit revision, the applicant shall submit the appropriate application form, compliance test results and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### A. MSWC Unit 1 (EU-001) and MSWC Unit 2 (EU-002)

This section of the permit addresses the following emissions units.

#### MSWC Unit 1 (EU-001) and MSWC Unit 2 (EU-002)

*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.

*Primary Regulatory Requirements:* Based on the current Title V air operation permit, Units 1 and 2 are regulated under: NSPS Subpart Cb, Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors That Are Constructed on or Before September 20, 1994, adopted and incorporated by reference, subject to provisions, in Rule 62-204.800(8)(b), F.A.C.; Rule 62-212.400(5), F.A.C., Prevention of Significant Deterioration (PSD) of Air Quality and Permit No. PSD-FL-108 (as modified); Rule 62-212.400(6), F.A.C., Best Available Control Technology (BACT). Also, note that conditions in NSPS Subpart Cb refer to provisions NSPS Subpart Eb. These emissions units are also subject to Compliance Assurance Monitoring (CAM), adopted and incorporated by reference in Rule 62-204.800, F.A.C.

#### PREVIOUS APPLICABLE REQUIREMENTS

1. Other Permits: The conditions of this permit supplement all previously issued air construction and operation permits for these emissions units. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions and regulations. [Rule 62-4.070, F.A.C.]

#### EQUIPMENT AND CONSTRUCTION

2. Final Design Specifications: Upon entering into a contractual commitment with a control equipment vendor, the permittee shall submit the final design specifications for each control equipment system to the Permitting Authority and the Compliance Authority. [Rule 62-4.070(3), F.A.C.]
3. Updated Control Equipment Designs: As necessary, the permittee shall update the Permitting Authority

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### A. MSWC Unit 1 (EU-001) and MSWC Unit 2 (EU-002)

and the Compliance Authority with final design specifications and any substantial changes made to the final design specifications during the actual construction phase. [Rule 62-4.070(3), F.A.C.]

4. **SNCR System:** The permittee shall construct, tune, operate and maintain a new SNCR system for each MSWC to reduce NO<sub>x</sub> emissions. The new SNCR system will inject urea directly into each unit at a location with an optimum temperature range for a urea-based system, typically 1650° F to 2100° F. The reaction must take place within the specified temperature range or it is possible to generate additional NO<sub>x</sub> emissions or excess ammonia slip. Increasing the residence time available for mass transfer and chemical reactions generally improves NO<sub>x</sub> reduction. The following is based on the preliminary design information and is subject to change.

*SNCR systems can achieve NO<sub>x</sub> reductions of 50% on some applications. The number of injection ports, locations and the overall piping layout within each MSWC will be designed by the contractor. The SNCR injection system will consist of up to three levels of injectors and up to ten injection nozzles per level. The final location, quantity and elevation of injection points will be determined by the SNCR equipment supplier by performing a computational fluid dynamic (CFD) model of the combustion and temperature profiling within each MSWC. The CFD modeling will be used to determine the temperature zone for ideal introduction of the urea mixture for varying fuel conditions. The SNCR system will be designed for startup, shutdown and monitoring via the MSWC control system. The urea storage system will be designed with 14-day supply and a 150% capacity containment dike. To provide system robustness, there will be a 100% redundancy in all pumping systems. The preliminary design target for ammonia slip is 15 parts per million by volume dry (ppmvd) corrected to 15% oxygen.*

The permittee shall update the Permitting and Compliance Authorities with revised information as necessary during final design and installation. [Application, Design and Rule 62-4.070(3), F.A.C.]

5. **ACI System:** The permittee shall construct, tune, operate and maintain a new ACI system for each MSWC to reduce emissions of heavy metals with mercury as the primary target. The ACI system will be designed to inject powdered activated carbon (PAC) into the flue gas ductwork just upstream of the dry scrubber, which is also known as a spray dryer absorber. The PAC acts as a sorbent for heavy metals, specifically mercury, present in the exhaust gas stream. The carbon particulates and the attached heavy metals will be removed from the exhaust gas stream by the fabric filter system downstream of the dry scrubber. The following is based on the preliminary design information and is subject to change.

*Each injection system will consist of the feeding device with air lock, seals, an air supply and pneumatic pipes and/or hoses. The projected PAC injection rate is in the range of 0.3 to 1.5 lb/ton of RDF combusted. The optimum injection rate will be determined during the initial performance tests. The PAC injection will be controlled using a rotary valve feeder, which will meter a specific volume of PAC into the blower and injection piping. The controls and feedback signals from the PAC injection system will be integrated into the distributed control system (DCS) and the CEMS. Sufficient blow-out connections will be provided to allow the lines to be quickly cleared should plugging occur. A volumetric feeder with dosage counts (calibrated for weight) or gravimetric feeder will be provided for each MSWC and one spare feeder system will be installed to provide redundancy.*

*The PAC will be stored in a single silo and fed to the injection point via a pneumatic injection train that will be installed for each MSWC. The silo will be pneumatically loaded from a truck at approximately 20 tons/hour (design fill rate) and is considered to be a batch loading operation. The silo will be equipped with a fabric filter to remove entrained carbon from the air vented during loading operations.*

The permittee shall update the Permitting and Compliance Authorities with revised information as necessary during final design and installation. [Application, Design and Rule 62-4.070(3), F.A.C.]

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### A. MSWC Unit 1 (EU-001) and MSWC Unit 2 (EU-002)

6. **Fabric Filter System:** The permittee shall construct, operate and maintain a new fabric filter system for each MSWC to reduce PM. The existing electrostatic precipitators will be removed and replaced with new fabric filter systems, which will improve the ability to collect and remove PM as well as any heavy metals, dioxins, furans and mercury that are attached to the PM. Each MSWC will be outfitted with a new fabric filter system that will be located downstream of the dry scrubber as the final treatment stage before the gases are exhausted to the atmosphere. The following is based on the preliminary design information and is subject to change.

*Each fabric filter system will be designed to treat 100% of the flue gas leaving the dry scrubber. Each fabric filter system is designed for a maximum flow rate of 115,000 dry standard cubic feet per minute (dscfm) and an outlet particulate loading of 16 milligrams per dry standard cubic meter (mg/dscm), which is equivalent to an outlet grain (gr) loading of 0.0070 gr/dscf.*

*The new systems will be pulse-jet fabric filters with six compartments and be designed to operate with one compartment off-line for cleaning and one compartment off-line for maintenance. The pulse-jet cleaning system will be independent from the exhaust gas flow and will have pneumatically actuated isolation valves to permit off-line cleaning and maintenance on any isolated compartment during full load operation of the plant.*

*Each compartment will be furnished with one pyramid-shaped hopper to promote collection of the captured particulate. The fabric filter systems shall be designed for non-combustibility, abrasion and corrosion resistance and overall durability.*

The permittee shall update the Permitting and Compliance Authorities with revised information as necessary during final design and installation. [Application, Design and Rule 62-4.070(3), F.A.C.]

7. **Combustion Control and OFA Air System:** The permittee shall install new combustion control systems and improved OFA systems on each unit to optimize combustion performance while minimizing the products of incomplete combustion. Staged OFA combustion will be added to enhance complete combustion of the RDF while maintaining relatively low temperatures to prevent excessive thermal NO<sub>x</sub> formation. An additional RDF transport fan will be added to convey the RDF into the MSWC providing a separation between the combustion air system and the transport air system to minimize related emissions. The following is based on the preliminary design information and is subject to change.

*Each new combustion control system will be designed with 14 OFA air ports located on two injection levels. A combination of proprietary adjustable and fixed nozzles with independent control of air mixing volumes will optimize the combustion process and lower CO and NO<sub>x</sub> emissions.*

The permittee shall update the Permitting and Compliance Authorities with revised information as necessary during final design and installation. [Application, Design and Rule 62-4.070(3), F.A.C.]

8. **Activated Carbon Silo Baghouse:** The permittee shall construct, operate, and maintain a new baghouse system to control PM emissions from the activated carbon silo. The equipment shall be designed for an outlet grain loading of 0.01 gr/acf. After the final design is selected, the permittee shall submit vendor information for the baghouse demonstrating compliance with the design outlet grain loading specifications. New and replacement bags shall meet the design outlet grain loading specifications. [Application and Design; and Rule 62-4.070(3), F.A.C.]
9. **SDA System:** The permittee shall construct, operate and maintain a new SDA system on each unit to control acid gases from the process. A live bin activator will be installed to enhance fly ash control. The existing lime slaking, tanks and feed equipment will be utilized. The following is based on the preliminary design information and is subject to change.

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### A. MSWC Unit 1 (EU-001) and MSWC Unit 2 (EU-002)

*Each SDA system will be designed to treat 100% of the flue gas leaving the RDF MSWC. To improve the control efficiency, the new SDA will be equipped with multiple lime injection nozzles and be slightly larger with baffles to provide an increased residence time.*

The permittee shall update the Permitting and Compliance Authorities with revised information as necessary during final design and installation. [Application, Design and Rule 62-4.070(3), F.A.C.]

10. CAM Plans: As part of the applications to incorporate this air construction permit into a revised Title V air operation permit, the permittee shall include a revised CAM plan as necessary to address each modified and new air pollution control system. [Rule 62-204.800, F.A.C.]

#### EMISSIONS STANDARDS

11. Activated Carbon Silo Baghouse: Visible emissions from the baghouse vent on the activated carbon silo shall not exceed 5% opacity as determined by EPA Method 9. [Rules 62-4.070(3) and 62-297.620(4), F.A.C.]
12. MSWC Unit 1 (EU-001) and MSWC Unit 2 (EU-002): These emissions units remain subject to all applicable requirements of valid air construction and operation permits. [Rule 62-4.070(3), F.A.C.]

#### CONTINUOUS MONITORING REQUIREMENTS

13. Urea Injection Rate: The permittee shall install, calibrate, operate and maintain a CMS to continuously monitor and record the urea injection rate of each SNCR system. [Rule 62-4.070(3), F.A.C.]
14. ACI Rate: The permittee shall install, calibrate, operate and maintain a CMS to continuously monitor and record the ACI injection rate of each ACI system. [Rule 62-4.070(3), F.A.C.]

#### EMISSIONS PERFORMANCE TESTING

15. Tests, Notifications and Reports: When conducting tests required by this permit, the permittee shall follow the test, notification, monitoring and reporting procedures specified in the current Title V air operation permit. [Permit No. 0990234-013-AV]
16. Activated Carbon Silo Baghouse: In accordance with EPA Method 9, the permittee shall conduct initial and annual compliance tests to demonstrate compliance with the visible emissions standard. Initial tests shall be conducted when the activated carbon silo is initially loaded. Annual tests shall be conducted during each fiscal year (October 1st to September 30th). Each test shall be conducted for at least 30 minutes or for the complete loading cycle if less than 30 minutes. The permittee shall notify the Compliance Authority at least 15 days prior to the schedule compliance test date. Test reports shall be submitted within 45 days of completing the test. In addition to the information required in Rule 62-297.310(8), F.A.C., each test report shall include the activated carbon loading rate, the total amount of activated loaded and the line pressure for pneumatic loading. [Rules 62-4.070(3), 62-297.310(7) and 62-297.310(8), F.A.C.]
17. MSWC Units 1 and 2: The permittee shall conduct initial compliance test on MSWC units 1 and 2 using the test methods and procedures described in the current Title V air operation permit.
  - a. Within 60 days of completing construction of each new combustion control system, OFA system, ACI system and fabric filter system for a MSWC unit, the permittee shall conduct stack tests to determine compliance with the cadmium, dioxin/furan, hydrochloric acid, lead, mercury, PM and VOC emissions standards in the current Title V air operation permit. Subsequent compliance tests shall be conducted in accordance with the frequencies specified in the current Title V air operation permit.
  - b. Within 60 days of completing construction of each new SNCR system for a MSWC unit, the permittee

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### A. MSWC Unit 1 (EU-001) and MSWC Unit 2 (EU-002)

shall conduct performance tests to determine the ammonia slip emissions in accordance with EPA method CTM-027 or EPA Method 320 or other Methods approved by the Department. Subsequent performance tests to determine the ammonia slip emissions shall be conducted during each federal fiscal year (October 1st to September 30th).

- c. Compliance tests for beryllium and fluorides may be conducted at the next regularly scheduled test deadline as specified in the current Title V air operation permit.
- d. Compliance with the emissions standards for CO, NO<sub>x</sub> and SO<sub>2</sub> shall be demonstrated by data collected from the required CEMS.
- e. Compliance with the opacity standards shall be demonstrated by data collected from the required COMS.

[Rule 62-4.070(3), F.A.C. and Permit No. 0990234-013-AV]

18. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Rule 62-297.310(8), F.A.C. As part of the reports, the permittee shall also provide:

- a. For each required test run, the permittee shall record and report the actual steam production rate, heat input rate, CO emissions, NO<sub>x</sub> emissions, SO<sub>2</sub> emissions and opacity data.
- b. 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.
- c. For each required VOC and ammonia slip test run, the permittee shall also record and report the actual urea injection rate.
- d. 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.]

[Rule 62-4.070(3), F.A.C.]

#### REVISED CONDITIONS TO PREVIOUS PERMITS

19. Revised Permit Conditions: The following revise specific conditions in Permit No. PSD-FL-108 (as modified). All other permit conditions remain unchanged.

##### Placard Page, 2<sup>nd</sup> Paragraph

The North County Regional Resource Recovery Facility is authorized to operate the two (2) existing RDF boilers to their maximum design input rating of 412.5 MMBtu per hour with a maximum steam production rating of 324,000 lbs. per hour per unit based on a 4-hour block average, subject to the General and Specific Conditions stated herein. At the municipal waste combustor unit capacity of 900 tons per day and a reference heating value of 5,700 Btu/lb of RDF, the maximum heat input rate is 427.5 MMBtu/hour (24-hour average). [PSD-FL-108A; and Project No. 0990234-015-AC/PSD-FL-108H]

##### Specific Condition 3.c.

Carbon Monoxide: 400 ppmvd corrected to 7% O<sub>2</sub> (4 4-hour average); 200 ppmvd corrected to 7% O<sub>2</sub> (24-hour average). [PSD-FL-108A; and Project No. 0990234-015-AC/PSD-FL-108H]

##### Specific Condition 6.

~~The temperature at the exit of the dry scrubber shall not exceed 300 °F (4 hour block average). Appropriate instrumentation shall be installed, if not already installed, within 180 days of issuance of this permit, at a proper location to continuously monitor and record these operating temperatures. In accordance with the~~

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

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#### A. MSWC Unit 1 (EU-001) and MSWC Unit 2 (EU-002)

provisions of §60.53b(c), the owner or operator shall operate each unit in compliance with the specified particulate matter control device temperatures. In accordance with the provisions of §60.58b(i)(7), the owner or operator shall install, calibrate, maintain and operate equipment to continuously monitor and record the particulate matter control device temperature of each unit. The existing monitoring equipment shall comply with these requirements or the owner or operator shall install new monitoring equipment to comply with the federal regulations. [PSD-FL-108A; Project No. 0990234-015-AC/PSD-FL-108H; and 40 CFR 60.58b(i)(7)]



**SECTION 4. APPENDICES**

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**SECTION 4. APPENDIX A**  
**CITATION FORMATS AND GLOSSARY OF COMMON TERMS**

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*The following examples illustrate the format used in the permit to identify applicable permitting actions and regulations.*

**REFERENCES TO PREVIOUS PERMITTING ACTIONS**

Old Permit Numbers

*Example:* Permit No. AC50-123456 or Air Permit No. AO50-123456

*Where:* "AC" identifies the permit as an Air Construction Permit  
"AO" identifies the permit as an Air Operation Permit  
"123456" identifies the specific permit project number

New Permit Numbers

*Example:* Permit Nos. 099-2222-001-AC, 099-2222-001-AF, 099-2222-001-AO, or 099-2222-001-AV

*Where:* "099" represents the specific county ID number in which the project is located  
"2222" represents the specific facility ID number  
"001" identifies the specific permit project  
"AC" identifies the permit as an air construction permit  
"AF" identifies the permit as a minor federally enforceable state operation permit  
"AO" identifies the permit as a minor source air operation permit  
"AV" identifies the permit as a Title V Major Source Air Operation Permit

PSD Permit Numbers

*Example:* Permit No. PSD-FL-317

*Where:* "PSD" means issued pursuant to the Prevention of Significant Deterioration of Air Quality  
"FL" means that the permit was issued by the State of Florida  
"317" identifies the specific permit project

**RULE CITATION FORMATS**

Florida Administrative Code (F.A.C.)

*Example:* [Rule 62-213.205, F.A.C.]

*Means:* Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

Code of Federal Regulations (CFR)

*Example:* [40 CFR 60.7]

*Means:* Title 40, Part 60, Section 7

**GLOSSARY OF COMMON TERMS**

**° F:** degrees Fahrenheit

**acfm:** actual cubic feet per minute

**ARMS:** Air Resource Management System  
(Department's database)

**BACT:** best available control technology

**Be:** Beryllium

**Btu:** British thermal units

**CAM:** compliance assurance monitoring

**Cd:** Cadmium

**CEMS:** continuous emissions monitoring system

## SECTION 4. APPENDIX A

### CITATION FORMATS AND GLOSSARY OF COMMON TERMS

<b>cfm:</b> cubic feet per minute	<b>NESHAP:</b> National Emissions Standards for Hazardous Air Pollutants
<b>CFR:</b> Code of Federal Regulations	<b>NO<sub>x</sub>:</b> nitrogen oxides
<b>CO:</b> carbon monoxide	<b>NSPS:</b> New Source Performance Standards
<b>COMS:</b> continuous opacity monitoring system	<b>O&amp;M:</b> operation and maintenance
<b>DEP:</b> Department of Environmental Protection	<b>O<sub>2</sub>:</b> oxygen
<b>Department:</b> Department of Environmental Protection	<b>Pb:</b> lead
<b>dscfm:</b> dry standard cubic feet per minute	<b>PM:</b> particulate matter
<b>EPA:</b> Environmental Protection Agency	<b>PM<sub>10</sub>:</b> particulate matter with a mean aerodynamic diameter of 10 microns or less
<b>ESP:</b> electrostatic precipitator (control system for reducing particulate matter)	<b>ppmvd:</b> parts per million by volume dry
<b>EU:</b> emissions unit	<b>PSD:</b> prevention of significant deterioration
<b>F.A.C.:</b> Florida Administrative Code	<b>psi:</b> pounds per square inch
<b>F.D.:</b> forced draft	<b>PTE:</b> potential to emit
<b>F.S.:</b> Florida Statutes	<b>RACT:</b> reasonably available control technology
<b>FGR:</b> flue gas recirculation	<b>RATA:</b> relative accuracy test audit
<b>F:</b> fluoride	<b>SAM:</b> sulfuric acid mist
<b>ft<sup>2</sup>:</b> square feet	<b>scf:</b> standard cubic feet
<b>ft<sup>3</sup>:</b> cubic feet	<b>scfm:</b> standard cubic feet per minute
<b>gpm:</b> gallons per minute	<b>SIC:</b> standard industrial classification code
<b>gr:</b> grains	<b>SNCR:</b> selective non-catalytic reduction (control system used for reducing emissions of nitrogen oxides)
<b>HAP:</b> hazardous air pollutant	<b>SO<sub>2</sub>:</b> sulfur dioxide
<b>Hg:</b> mercury	<b>TPH:</b> tons per hour
<b>I.D.:</b> induced draft	<b>TPY:</b> tons per year
<b>ID:</b> identification	<b>UTM:</b> Universal Transverse Mercator coordinate system
<b>kPa:</b> kilopascals	<b>VE:</b> visible emissions
<b>lb:</b> pound	<b>VOC:</b> volatile organic compounds
<b>MACT:</b> maximum achievable technology	
<b>MMBtu:</b> million British thermal units	
<b>MSDS:</b> material safety data sheets	
<b>MW:</b> megawatt	

**SECTION 4. APPENDIX B**  
**GENERAL CONDITIONS**

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The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of F.S. and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
  - a. Have access to and copy and records that must be kept under the conditions of the permit;
  - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
  - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
  - a. A description of and cause of non-compliance; and
  - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the F.S. or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, F.S.. Such evidence

**SECTION 4. APPENDIX B**  
**GENERAL CONDITIONS**

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shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and F.S. after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by F.S. or Department rules.
11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit also constitutes:
  - a. Determination of Best Available Control Technology (Not Applicable);
  - b. Determination of Prevention of Significant Deterioration (revision to BACT standard); and
  - c. Compliance with New Source Performance Standards (Not Applicable).
14. The permittee shall comply with the following:
  - a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
  - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
  - c. Records of monitoring information shall include:
    - 1) The date, exact place, and time of sampling or measurements;
    - 2) The person responsible for performing the sampling or measurements;
    - 3) The dates analyses were performed;
    - 4) The person responsible for performing the analyses;
    - 5) The analytical techniques or methods used; and
    - 6) The results of such analyses.
15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

**SECTION 4. APPENDIX C**  
**COMMON CONDITIONS**

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Unless otherwise specified in the permit, the following conditions apply to all emissions units and activities at the facility.

**EMISSIONS AND CONTROLS**

1. **Plant Operation - Problems:** If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]
2. **Circumvention:** The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
3. **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. Condition E.3.a in Permit No. 0990234-010-AV specifies the allowable excess emissions for emissions units 001 and 002. [Rule 62-210.700(1), F.A.C.]
4. **Excess Emissions Prohibited:** Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]
5. **Excess Emissions - Notification:** In case of excess emissions resulting from malfunctions, the permittee shall notify the Department or the appropriate Local Program 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 Department. [Rule 62-210.700(6), F.A.C.]
6. **VOC or OS Emissions:** No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) 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.]
7. **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) and 62-210.200(Definitions), F.A.C.]
8. **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. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]
9. **Unconfined Particulate Emissions:** During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary. [Rule 62-296.320(4)(c), F.A.C.]

*{Permitting Note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of a NSPS or NESHAP provision.}*

**RECORDS AND REPORTS**

10. **Records Retention:** All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least 5 years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rule 62-213.440(1)(b)2, F.A.C.]
11. **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 March 1st of each year. [Rule 62-210.370(3), F.A.C.]

**SECTION 4. APPENDIX D**  
**ATTACHMENT A**

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Air Pollution Control System Upgrade

The components, equipment and materials for the refurbishment project related to the air pollution control system (APC) upgrade consist of:

- Two fabric filter systems
- Induced draft (ID) fans
- Fabric filter and Spray Dryer Absorber ash conveying system, per line, connecting to the existing fly ash conveying system
- Double flap valves and instillation for all fabric filter hoppers
- Plumbing – roof drains and installation
- Heating, Ventilating and Air Conditioning (HVAC) – ventilation equipment and installation
- Plant air system (including air dryers, receivers, enclosure and installation)
- Fire protection system
- 4.16 kilovolt (kV) switchgear and conductors for new ID fan motors [approximately 1,000 horsepower (hp) motors]
- Two 480 volt (V) Motor Control Centers (MCC) – one for each APC train
- 480 V Electrical Distribution System (EDS) with separate feeds for each MCC
- 5 kV EDS
- Fabric filter, SNCR systems and ACI systems electrical work
- One SNCR system for each boiler, including common urea feed tank
- One ACI system for each boiler, with a redundant feeder and blower, fed from a common carbon silo
- Two Spray Dry Absorbers with multiple lime injection nozzles and baffles; a live bin activator to enhance fly ash removal; and the original slaking, tanks and feed equipment will remain.

Municipal Waste Combustor (MWC) Components

The MWC work will consist of the following activities:

- Replace 12 fuel chutes
- Replace 12 air swept spouts with air supplies
- Replace 2 ash diverters
- Replace two Inconel 625-clad furnaces (with front, rear and side walls with upper and lower headers and drains/vents, stoker seals, supply tubes, buck stays, access doors and new furnace roofs)
- Replace four auger feed conveyors
- Install two new transport air fans, supports, ducts and expansion joints
- Refurbish two of the existing forced draft fans
- Refurbish two of the existing overfire air fans
- Replace two bottom ash conveyors (horizontal portions only)
- Refurbish eight natural gas auxiliary burners with isolation dampers, hoses and igniters, and relocated valve racks
- Replace two superheaters (310HSS and SA210) with headers, hangers, cross over piping, saturated connections, rapper hammers, outlet piping and drains/vents
- Replace two attemperators

## SECTION 4. APPENDIX D

### ATTACHMENT A

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- Replace two sets of steam drum internals, including sixteen (16) steam-water separators and related drum baffles and internals
- Replace two generating banks (loose tubes and side wall tubes)
- Replace two sets of boiler trim
- Replace two sets of feed water piping from flow control valves to steam drums
- Replace two modular economizers
- Replace two modular tubular air heaters
- Install air heater bypass ducts and dampers
- Replace two Corten flue systems including expansion joints, supports and hoppers from the boiler to stack
- Replace two sets of Corten boiler casing
- Replace two penthouse casings and install two (2) new penthouse trolley beams
- Upgrade two sets of boiler instrumentation, excluding drum instrumentation
- Replace two closed circuit televisions for furnace grates
- Install two sets of boiler platforms (interior to the building)

#### Balance of Plant/Facility Materials or Equipment

The components, equipment and materials for the Refurbishment Project related to the balance of the plant/facility consist of the following activities:

- Replace two 15 kV interrupter switches
- Replace two 13.8 kV/480 V transformers
- Refurbish existing ID fan 4.16 kV motor starters and provide to the Operator as spares
- Cleaning and re-insulation of non-segregated metal bus duct
- Re-insulation of 13.8 kV switchgear
- Refurbish existing precipitator MCC to be provided to the Operator as spares
- Install one uninterruptible power supply and AC instrument transformer
- Install one Distributed Control System (DCS) and associated wiring for the boiler islands, RDF buildings and water treatment plant
- Install one fire protection monitoring system
- Install one fire protection system data logger
- Install one fire protection system (FM200) for turbine generator cable room, DCS and Engineering Work Station (EWS) rooms to replace existing Halon systems
- Install one set of boiler laboratory instrumentation
- Install one Sensidyne combustion gas detection system
- Refurbish four drum magnets (overhaul only)
- Replace one bulk acid storage tank
- Replace two bucket elevators
- Install Manufacturing Building tipping floor cap, but no floor capping in the storage building
- Refurbish boiler building elevator



**SECTION 4. APPENDIX D**

**ATTACHMENT A**

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- Install one air compressor system for RDF buildings, including foundation/skid, utilities, MCC, local piping, air compressors with coolers, air dryers, receivers and tie-in to existing air system

Install one emergency egress from the boiler house control room. The new egress door will be equipped with a window and exiting to a new stairway leading to ground level.

**From:** Sheplak, Scott  
**Sent:** Thursday, June 17, 2010 10:51 AM  
**To:** 'Marybeth Morrison'  
**Cc:** Holtom, Jonathan; Koerner, Jeff  
**Subject:** RE: Title V Revision Application NCRRF (Unit 1 & 2)

Thank you for providing the background information. Sounds like you are very busy at the SWA these days!

The provided background justification for item 2) does not seem to indicate that it is part of the refurbishment of the units. The information provided for item 3) seems to indicate that it is part of the refurbishment of the units. Therefore, it seems that item 2) is independent of the refurbishment project and could be reflected in the current revision application in-house. As Jon indicated you need to let us know asap if you wish to have items 2) and 3) included so that we can wrap this one up.

-----Original Message-----

**From:** Marybeth Morrison [mailto:mmorrison@swa.org]  
**Sent:** Thursday, June 17, 2010 9:31 AM  
**To:** Holtom, Jonathan; Sheplak, Scott; Koerner, Jeff  
**Subject:** Title V Revision Application NCRRF (Unit 1 & 2)

Hi Jonathan,

Here is the supporting documentation that was sent for the PSD permit/AC (for the NCRRF Refurbishment Project. As part of this permit application we asked to change 3 conditions: 1). clarify permitted capacity to steam flow & correct heat input value 2). Change the 1-hr CO limit 3) change the 300 deg F temperature to rule definition.

These changes were approved in the AC/PSD permit and we submitted the Title V revision application so that these conditions could be implemented before refurbishment was complete. Please review the supporting documentation and let me know if we need to wait on item 2 & 3.

Thanks so much for you help!

Mary Beth

Mary Beth Morrison  
Environmental Programs Supervisor  
Solid Waste Authority of PBC  
(561) 640-4000 ext. 4613

-----Original Message-----

**From:** ricoh@swa.org [mailto:ricoh@swa.org]  
**Sent:** Thursday, June 17, 2010 9:14 AM  
**To:** Marybeth Morrison  
**Subject:** Message from "ENVRICOH6001"

This E-mail was sent from "ENVRICOH6001" (Aficio MP 6001).

**From:** Marybeth Morrison [mmorrison@swa.org]  
**Sent:** Thursday, June 17, 2010 2:22 PM  
**To:** Holtom, Jonathan  
**Cc:** Sheplak, Scott; Koerner, Jeff  
**Subject:** RE: Title V Revision Application NCRRF (Unit 1 & 2)  
**Attachments:** 20100617140830567.pdf

Hi Jonathan,

After speaking to the Plant Operator, we have decided to keep the two requests for clarifying the permitted capacity/correcting heat input value and changing the 1 hr CO 400 ppmvd limit to a 4-hour block average. However, we would like to withdraw the request to change the temperature limit from 300 deg F to the rule definition. We will make this request after the refurbishment project is complete.

Attached you will find a letter from the Responsible Official requesting this change in the Title V Permit application. The letter is also requesting that the Department combine the Biosolids Pelletization Facility (BPF) Title V Application with this recent application to save staff time and costs on a public notice. The original letter will be sent out by Fed Ex. (Please note that Dan Pellowitz signed on behalf of Mark Hammond. He is a second authorized Responsible Official for the Authority. Mark Hammond is currently out of the office and I wanted to get this to you ASAP).

Thank you again!

Mary Beth

-----Original Message-----

**From:** Holtom, Jonathan [mailto:Jonathan.Holtom@dep.state.fl.us]  
**Sent:** Thursday, June 17, 2010 10:24 AM  
**To:** Marybeth Morrison  
**Cc:** Sheplak, Scott; Koerner, Jeff  
**Subject:** RE: Title V Revision Application NCRRF (Unit 1 & 2)

Hi Marybeth,

I spoke with Jeff and his recollection was that he and Bruce told you that you could ask for these three changes to be incorporated into your Title V permit prior to the completion of the refurbishment project if you felt that you could still comply with all of your permit conditions.

The information that you emailed this morning makes it sound like the high efficiency baghouses and carbon injection could be needed in order to operate at a higher exhaust gas temperature in order to still meet your permit limits, but that the prior actual emissions were quite a bit lower than the allowable limits for mercury and lead. So, based on the available operating data that you have, it is up to you to decide if you are comfortable with your ability to comply with all of your current limits and want these changes now, or if you feel that it would be safer to wait until after the refurbishment project is completed. The requested changes to the heat input language that was made in the AC permit are fine to make now, since those changes were simply clarifications and did not allow any increases in the design capacity of the units.

Let us know what you would like to do.

Jon Holtom, P.E., CPM  
Title V Program Administrator  
Bureau of Air Regulation  
(850) 921-9531

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Copy the url below to a web browser to complete the DEP survey:

<http://survey.dep.state.fl.us/?refemail=Jonathan.Holtom@dep.state.fl.us>

Thank you in advance for completing the survey.

From: Marybeth Morrison [mailto:mmorrison@swa.org]  
Sent: Thursday, June 17, 2010 9:31 AM  
To: Holtom, Jonathan; Sheplak, Scott; Koerner, Jeff  
Subject: Title V Revision Application NCRRF (Unit 1 & 2)

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Thanks so much for you help!

Mary Beth

Mary Beth Morrison  
Environmental Programs Supervisor  
Solid Waste Authority of PBC  
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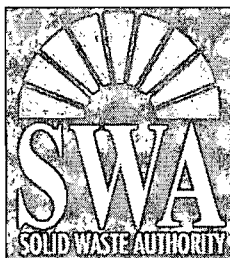
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To: Marybeth Morrison  
Subject: Message from "ENVRICOH6001"

This E-mail was sent from "ENVRICOH6001" (Aficio MP 6001).

Scan Date: 06.17.2010 09:14:18 (-0400)

Queries to: [ricoh@swa.org](mailto:ricoh@swa.org)



YOUR PARTNER FOR  
SOLID WASTE SOLUTIONS

June 17, 2010

Mr. Jonathan Holtom, P.E.  
Title V Permit Division  
Florida Department of Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32301

RE: Request to combine Title V Air Permit Applications for Biosolid Pelletization Facility (BPF) & NCRRF Unit 1 & 2 (three conditions) & to withdraw Temperature Request North County Resource Recovery Facility – Title V Air Permit No. 0990234-013-AV

Dear Jonathan:

On November 19, 2009, the Solid Waste Authority (SWA) submitted a Title V Air Operation Permit revision application to include the operations of the new Biosolids Pelletization Facility (BPF) located at the North County Resource Recovery Facility (NCRRF). On June 14, 2010, we submitted a separate Title V Air Permit application to revise three conditions for Boilers Unit 1 & Unit 2 at the Waste-to-Energy Facility. In order to save staff time and costs with a public notice, we are hereby requesting that the two permit applications be combined and drafted into one permit revision.

Additionally, we would like you to proceed with revising the Title V Permit for two of the three conditions for NCRRF Unit 1 & Unit 2: (1) to define the permitted capacity as 324,000lbs/hr (4-hr block) of steam flow and correct the heat input value to 427.5 MMBtu/hr (24-hr average) and (2) change the 1-hr CO 400 ppmvd limit to a 4-hr block average. However, at this time we would like to withdraw the third request to replace the 300 deg.F temperature limit with the rule definition. We intend to ask for the temperature change to be incorporated in the Title V Air Permit revision application after the refurbishment project is complete.

We wish to thank you and your staff for your assistance with these projects. If you have any comments or need additional information, please contact Mary Beth Morrison at (561) 640-4000 ext. 4613.

Sincerely,

Mark Hammond  
Executive Director  
Solid Waste Authority of Palm Beach County

Cc: Carol Kemker (EPA Region 4, Atlanta, GA)  
Jeff Koerner (FDEP Tallahassee)  
Mike Halpin (FDEP Tallahassee)  
Lennon Anderson (FDEP Southeast District Office)  
Leah Richter (Malcolm Pirnie)

Manuel Hernandez (CDM)  
Patrick Carroll (SWA)  
Mary Beth Morrison (SWA)  
Chris Tilman (Malcolm Pirnie)

**Sheplak, Scott**

-file-

**From:** Holtom, Jonathan  
**Sent:** Thursday, June 17, 2010 10:24 AM  
**To:** 'Marybeth Morrison'  
**Cc:** Sheplak, Scott; Koerner, Jeff  
**Subject:** RE: Title V Revision Application NCRRF (Unit 1 & 2)

Hi Marybeth,

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Let us know what you would like to do.

Jon Holtom, P.E., CPM  
Title V Program Administrator  
Bureau of Air Regulation  
(850) 921-9531

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**Sent:** Thursday, June 17, 2010 9:31 AM  
**To:** Holtom, Jonathan; Sheplak, Scott; Koerner, Jeff  
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Thanks so much for you help!

Mary Beth

Mary Beth Morrison  
Environmental Programs Supervisor  
Solid Waste Authority of PBC  
(561) 640-4000 ext. 4613

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Sent: Thursday, June 17, 2010 9:14 AM  
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This E-mail was sent from "ENVRICOH6001" (Aficio MP 6001).

Scan Date: 06.17.2010 09:14:18 (-0400)  
Queries to: [ricoh@swa.org](mailto:ricoh@swa.org)





March 5, 2009

Ms. Trina Vielhauer  
Chief, Bureau of Air Regulation  
Florida Department of Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

Re: North County Resource Recovery Facility  
FDEP Title V Air Operations Permit (No. 0990234-010 AV) and FL-PSD 108  
Air Construction Permit Application with Supporting Documentation

Dear Ms. Vielhauer:

The Solid Waste Authority of Palm Beach County ("Authority") is the owner of the North County Resource Recovery Facility ("Facility"), a large Municipal Waste Combustor that was constructed in compliance with an Air Construction Permit (No. FL-PSD 108) and is operated pursuant to an FDEP Title V Air Operations Permit (No. 0990234-010 AV). As discussed during our pre-application meeting on December 4, 2008, the Authority wishes to undertake a refurbishment project ("Project") in 2010. Specifically, the Authority wishes to install new air pollution control equipment and maintain, replace, and repair other components of the Facility. The attached air construction permit application package addresses the Authority's Project. The Project will require an air construction permit pursuant to Rule 62-210.300(1)(a), F.A.C., authorizing the installation of the new air pollution control equipment at the Facility.

The Facility receives municipal solid waste (MSW) which is processed into refuse derived fuel (RDF). The RDF is combusted in the Facility's two municipal waste combustor (MWC) units to create steam and generate electricity. The Facility began commercial operations in the 1990's at which time state-of-the-art air pollution control (APC) systems were installed.

The Facility is an existing major Prevention of Significant Deterioration (PSD) source and is subject to 40 CFR 60, New Source Performance Standards (NSPS) Subpart Cb – Emission Guidelines and Compliance Schedules for large MWC's. An applicability review of 40 CFR 60, NSPS Subpart Eb, for new or modified municipal waste combustor, and Rule 62-212.400, PSD, was completed for the Project. The results of this analysis are included in the application package (Section A).

The analysis demonstrates that the Project does not constitute a "modification" or "refurbishment" under the NSPS and does not constitute a "major modification" under PSD. Thus the Project does not trigger Subpart Eb or PSD requirements.

The permit application package includes the following documents:

- Application Package:
  - Section A: NSPS and PSD Applicability Review
  - Section B: Completed Air Construction Permit Application Forms
  - Section C: Schematic Drawings: Facility Plot Plan and Process Flow Diagram
  - Section D: Control Equipment Descriptions
  - Section E: Emissions Calculations
  - Section F: Summary of Requested Permit Revisions
  - Section G: Supporting Documentation for Existing Permit Conditions Modification
  - Section H: Rule Applicability Analysis
  - Section I: Precautions to Prevent Emissions of Unconfined Particulate Matter
  - Section J: Insignificant Emissions
- Application fee in the amount of \$5,000.
- A compilation of PSD files related to the Facility in a CD format as requested during the pre-application meeting. A listing of the PSD files included on the CD is also provided for your reference.

As discussed during our pre-application meeting, the following revisions to the existing permit conditions are being requested:

1. Authorization to install the new air pollution control equipment and conduct the other work proposed as part of the Project.
2. Eliminate the one-hour CO permit limit (PSD-FL-108A Specific Condition 3c (part) and Title V Operating Permit (No. 0990234-010 AV), Condition A.6 (part) and A.19 (part)). This change is consistent with 40 CFR 60, Subpart Cb, which includes a 24-hour CO concentration limit, but not a one-hour limit for CO. (See Section G for the requested available documentation regarding origination of this one-hour CO permit condition for the Facility.)

3. Remove the temperature limit of 300°F that applies to the Facility's exhaust gas (PSD-FL-108A, Specific Condition 6 and Title V Operating Permit Condition R18). The existing Title V Permit includes the temperature limit in 40 CFR 60, Subpart Cb, (Title V Operating Permit Condition O.2.). (See Section G for the requested available documentation regarding origination of this permit condition for the Facility.)
4. Change the Facility's permit to indicate that the limit on steam flow generation is the short-term operating limit, rather than MSW throughput or other parameters that cannot be measured. The current Title V Air Operations Permit and PSD Permit list the existing MWC unit's heat input rating at 412.5 MMBtu per hour (per MWC unit). An adjustment to this heat input rating is needed to accurately reflect the permitted steaming rate of 324,000 pounds per hour which is based on a maximum heat input rate of 450.8 MMBtu per hour. Steam flow effectively limits heat input and RDF processing rates, and it is directly measured by the Facility. The currently permitted steam production limitation is 324,000 pounds per hour (four-hour block average) for each boiler and the refurbishment project will not increase this limit (Title V Operating Permit Condition A.1.0 (part) and R.19).

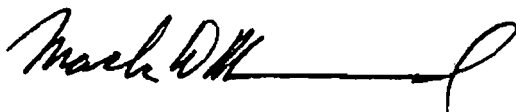
The requested permit revisions, itemized above, are discussed further in Section F of the permit application package.

Furthermore, during the pre-application meeting, information on the expected actual emissions from the Facility following the completion of this Project was requested to be provided for informational purposes only. An estimate of expected actual emissions is included in Section G for your information.

We look forward to working with the FDEP on this Project. Please contact me for any questions on this application at 561-640-4000.

Sincerely,

SOLID WASTE AUTHORITY OF PALM BEACH COUNTY



Mark D. Hammond  
Executive Director

Cc: M. Halpin (FDEP Siting Office)      M. Bruner (SWA)      R. Schauer (SWA)  
B. Worobel (SWA)      M. Morrison (SWA)      L. Richter (MP)  
D. Dee (Young van Assenderp)      D. Elias ((RTP Environmental)

## G. Supporting Documentation for Existing Permit Conditions Modification

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### I. Request for Removal of CO 1-hour Permit Emission Limit

#### A. Introduction

The original operating permit for the Facility included a CO requirement of 400 ppm on a 3-hour block average. This permit emission limit and the other emission rates were based upon the vendor's predicted performance. Once operation began and actual performance data for the facility was available, a request to modify several of the permitted emission rates was submitted. A modified PSD permit, PSD-FL-108A, was issued in 1991 and included an increased emission rate for NO<sub>x</sub> and 1-hour CO limit of 400 ppm and a 24-hour CO limit of 200 ppm, which was consistent with the then recently issued Subpart Cb Emission Guidelines.

#### B. Current Permit CO Emission Limits

The Facility is currently subject to a 1-hour block average of 400 ppm and a 24-hour block average of 200 ppm @ 7% O<sub>2</sub> for CO. These limits were requested by SWA during the PSD permit modifications to increase the NO<sub>x</sub> emission limits to demonstrate good combustion.

*Excerpt from BACT for NCRRF page 4 May 1991*

#### Carbon Monoxide

The applicant has proposed a reduction in the emission limitation for carbon monoxide as a valid criteria to demonstrate good combustion practices.

The applicant has proposed that the averaging time for the current carbon monoxide limitation of 400 ppm<sub>dv</sub> at 12% CO<sub>2</sub> be adjusted from 3 hours to 1 hour. In addition, the applicant has also proposed that a carbon monoxide limitation of 200 ppm<sub>dv</sub> at 12% CO<sub>2</sub> be established with a 24 hour averaging time.



### C. Authority's Proposal

The proposed refurbishment project includes the installation of air pollution control equipment together with a new combustion control system, which will optimize the combustion efficiency of the boilers. The applicant requests that the Facility be subject only to a CO emission limit of 200 ppm @ 7% O<sub>2</sub> on a 24-hour block average, in compliance with the applicable Subpart Cb emission guidelines, 40 CFR 60.34b(a) and as is currently included in the Facility's PSD-FL-108A permit condition 3 c (part) and Title V operating permit A.19 (part).

## II. Request for Modification to Permit Condition Stack Gas Temperature Limitation

### A. Introduction

The Facility is subject to a maximum exhaust gas temperature limit of 300°F, which is applicable at the outlet of the scrubbers (Title V permit condition R18). The PSD permit, PSD-FL-180A, January 1992, specific condition 6, establishes the 300°F temperature limit on the exhaust temperature at the outlet of the scrubber. Upon request, this temperature limitation was increased for a finite period to 350°F, to accommodate especially moisture laden wastes, following hurricane events.

### B. Current Permit Temperature Limitation

The existing Title V Permit 09900234-010-V includes a maximum exhaust gas temperature limitation of 300°F (permit condition R18). This requirement is in addition to the general temperature restriction that is included in the permit (permit condition O.2.). The Subpart Cb requirements pursuant to the applicable Subpart Cb regulations (40 CFR 60.34b(b) and 40 CFR 60.51b), limits the stack gas exhaust temperature measured at the particulate matter control device inlet to 17°C above the measured temperature during the most recent stack test that demonstrated compliance with the dioxin/furans (MWC Organics) emission limit. The Subpart Cb temperature limit ensures that the Facility's operation is always similar to the operations during the most recent stack test when the emissions of dioxin/furans were within permit limits. Subpart Cb does not place an absolute limit on the stack gas temperature itself.

### C. Basis for Current Permit Temperature Limitation

Available correspondence on the FDEP website was reviewed to determine the basis for the current permit condition. The initial intent of this temperature limitation was described in the *Intent to Permit, Technical Evaluation and Preliminary Determination*,



described in the *Intent to Permit, Technical Evaluation and Preliminary Determination, BACT*, issued by the FDEP in May 1991. This document indicates that the temperature limitation was added by the FDEP as a way to ensure the control of heavy metal (mercury and lead) emissions by promoting condensation.

*Excerpt from Technical Evaluation and Preliminary Determination for NCRFF, May 1991*

Heavy Metals (Lead, Mercury)

Heavy metals such as lead and mercury are controlled by using high efficiency particulate control devices and taking measures to ensure that metals condensation is maximized. The applicant has requested that the emission limitations for lead and mercury be increased from the present values of 0.004 lb/MMBtu and 3,200 grams per day (equivalent to 0.00036 lb/MMBtu), respectively.

A review of the stack testing at the Palm Beach RRF indicates that the maximum lead and mercury levels measured were  $7.12 \times 10^{-5}$  lb/MMBtu and  $6.56 \times 10^{-5}$  lb/MMBtu, respectively. These levels are well below what is currently permitted. Although the emissions of these heavy metals can fluctuate widely depending upon the waste stream, it is not expected that the current limitations will be exceeded based on the test results.

To further enhance the control of heavy metals, recent permits for RRF facilities have established maximum temperatures at the outlet of the scrubber to promote condensation. In each case the temperature at the exit of the scrubber has been limited to 300°F. This temperature limitation along with the current emission limitations for lead and mercury is judged to represent BACT for the Palm Beach RRF.

D. Authority's Proposal

Fabric filters will be installed as part of the Project. These filters will have operating advantages and a potential prolonged life by operating at a higher exhaust gas temperature than the current 300°F limit.

The proposed Project will add fabric filters (replacing the Facility's current electrostatic precipitators) and activated carbon injection (ACI) systems as control technologies that will remove heavy metals from the Facility's exhaust gas stream. Therefore, the 300°F temperature limit to promote condensation to remove heavy metals is no longer necessary. The Authority requests that the 300°F temperature limit be removed as a permit condition. The Facility will continue to be limited to the maximum temperature



specified in permit condition O.2., which is consistent with the applicable Subpart Cb regulation and with recently issued permits for other MWC facilities.

### III. Existing and Proposed Control Technology Summary

The following Table 1 summarizes the controls to be installed as part of the refurbishment project and their anticipated effect on the emissions for each pollutant.

**Table 1.  
NCRRF Refurbishment Control Technologies**

<b>Pollutant</b>	<b>Existing Controls</b>	<b>Controls after Proposed Refurbishment Project</b>
Particulates /PM10	Emissions controlled using an ESP	<ul style="list-style-type: none"> <li>• Emissions will be controlled with a Fabric Filter which is designed with a higher removal efficiency than the existing ESP to enhance particulate control.</li> <li>• The use of lime injection with the Spray Dryer Absorber will result in additional particulate control due to caking on the surface of the fabric filter.</li> <li>• Installation of this Air Pollution Control (APC) equipment combination will ensure that short term emission rates are not increased due to the project.</li> </ul>
NOx	Furnace Design includes Staged air Combustion	<ul style="list-style-type: none"> <li>• Enhanced furnace design with staged air and the addition of Non-Selective Catalytic Reduction.</li> <li>• Installation of this APC equipment will ensure that short term emission rates are not increased due to the project.</li> </ul>
CO	Good Combustion Practices	<ul style="list-style-type: none"> <li>• The proposed project will install up-to date combustion equipment and more complete combustion is anticipated.</li> <li>• Installation of this new combustion together with Good Combustion Practices will ensure that short term emission rates are not increased due to the project</li> </ul>
VOC	Good Combustion Practices	<ul style="list-style-type: none"> <li>• The proposed project will install up-to date combustion equipment and more complete combustion is anticipated.</li> <li>• Installation of this new combustion together with Good Combustion Practices will ensure that short term emission rates are not increased due to the project</li> </ul>
Lead	ESP	<ul style="list-style-type: none"> <li>• Emissions controlled with a Fabric Filter, the use of lime injection with the Spray Dryer Absorber will result in enhanced particulate control due to caking on the surface of the fabric filter.</li> <li>• Installation of this APC equipment combination will ensure that short term emission rates are not increased due to the project.</li> </ul>
Mercury	ESP	<ul style="list-style-type: none"> <li>• Emissions controlled by the use of Activated Carbon injection together with the use of a Fabric Filter. The use of lime injection with the Spray Dryer Absorber will result in enhanced particulate control due to caking on the surface of the fabric</li> </ul>



Pollutant	Existing Controls	Controls after Proposed Refurbishment Project
		filter. <ul style="list-style-type: none"> <li>Installation of this APC equipment combination will ensure that short term emission rates are not increased due to the project.</li> </ul>
HFI	Spray Dryer Absorber	<ul style="list-style-type: none"> <li>Emissions controlled with a Fabric Filter, the use of lime injection with the Spray Dryer Absorber will result in enhanced particulate and acid gas control due to caking on the surface of the fabric filter.</li> <li>Installation of this APC equipment combination will ensure that short term emission rates are not increased due to the project.</li> </ul>
SO2	Spray Dryer Absorber	<ul style="list-style-type: none"> <li>Emissions will continue to be controlled by the Spray Dryer absorber as now. The use of the fabric filter with the Spray Dryer Absorber may result in enhanced SO2 control due to caking on the surface of the fabric filter.</li> <li>There is no change to the control equipment or exhaust flowrate and therefore short term emission rates are not increased due to the project.</li> </ul>
MWC Organics	Good Combustion Practices	<ul style="list-style-type: none"> <li>The refurbishment will provide more uniform temperature in the boiler and repair any leakage in the ductwork to improve overall combustion efficiency.</li> <li>The installation of up-to-date combustion equipment including over fire control in addition to Good Combustion Practices will ensure that short term emission rates are not increased due to the project.</li> </ul>
MWC Acids	Spray Dryer Absorber	<ul style="list-style-type: none"> <li>Emissions will continue to be controlled by the Spray Dryer absorber. The use of the Fabric Filter with the Spray Dryer Absorber may result in enhanced MWC Acids control due to caking on the surface of the fabric filter.</li> <li>There is no change to the control equipment or exhaust flowrate and therefore short term emission rates are not increased due to the project.</li> </ul>
Beryllium	ESP	<ul style="list-style-type: none"> <li>Emissions controlled with a Fabric Filter, the use of lime injection with the Spray Dryer Absorber will result in enhanced particulate control due to caking on the surface of the fabric filter.</li> <li>Installation of this APC equipment combination will ensure that short term emission rates are not increased due to the project.</li> </ul>
Cadmium	ESP	<ul style="list-style-type: none"> <li>Emissions controlled with a Fabric Filter, use of lime injection with the Spray Dryer Absorber will result in enhanced particulate control due to caking on the fabric filter surface.</li> <li>Installation of this APC equipment combination will ensure that short term emission rates are not increased due to the project.</li> </ul>





Sheplak, Scott

File

**From:** Hernandez, Manuel [HernandezMJ@cdm.com]  
**Sent:** Wednesday, August 04, 2010 10:09 AM  
**To:** Friday, Barbara; mhammond@swa.org; ctilman@pirnie.com; Anderson, Lennon; James\_Stormer@doh.state.fl.us; Halpin, Mike; Forney.Kathleen@epamail.epa.gov; Oquendo.Ana@epamail.epa.gov; Gibson, Victoria; Sheplak, Scott; Holtom, Jonathan; Marybeth Morrison; Jim Greer; Brad Vermeulen; sludgy@nefcobiosolids.com; Hibbard, Cynthia; William Hansen  
**Subject:** RE: SOLID WASTE AUTHORITY OF PALM BEACH COUNTY/NORTH COUNTY RESOURCE RECOVERY FACILITY; 0990234-016-AV  
**Attachments:** Comments to Draft Permit 0990234-16-AV.pdf

Good morning to all. Please find attached a copy our letter providing comments to the Draft Air Operation Permit No. 0990234-016-AV. The original copy will be send via FedEx later today to Mr. Jonathan K. Holtom.

Hope everyone has a great day!



Please consider the environment before printing this email

**Manuel J. Hernandez, P.E.**

**CDM**

consulting engineering construction operations - [www.cdm.com](http://www.cdm.com)

**Project Manager**

1601 Belvedere Road, Suite 400E

West Palm Beach, FL 33406

Phone (561) 689-3336

Fax (561) 689-9713

[hernandezmj@cdm.com](mailto:hernandezmj@cdm.com)

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**From:** Friday, Barbara [mailto:Barbara.Friday@dep.state.fl.us]  
**Sent:** Wednesday, June 30, 2010 1:39 PM  
**To:** mhammond@swa.org  
**Cc:** Hernandez, Manuel; ctilman@pirnie.com; Anderson, Lennon; James\_Stormer@doh.state.fl.us; Halpin, Mike; Forney.Kathleen@epamail.epa.gov; Oquendo.Ana@epamail.epa.gov; Gibson, Victoria; Sheplak, Scott; Holtom, Jonathan  
**Subject:** SOLID WASTE AUTHORITY OF PALM BEACH COUNTY/NORTH COUNTY RESOURCE RECOVERY FACILITY; 0990234-016-AV

Dear Sir/ Madam:

Attached is the official **Written Notice of Intent to Issue Air Permit** for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send".

Note: We must receive verification that you are able to access the documents. Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).



1601 Belvedere Road, Suite 400 East  
West Palm Beach, Florida 33406  
tel: +1 561 689-3336  
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RECEIVED  
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AIR REGULATION

August 3, 2010

Mr. Jonathan K. Holtom, P.E.  
Program Administrator  
Title V Section  
Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, Florida 32399

Subject: Solid Waste Authority of Palm Beach County  
North County Resource Recovery Facility  
Comments to Draft Air Operation Permit No. 0990234-016-AV

Dear Mr. Holtom:

The Solid Waste Authority of Palm Beach County (SWA) and CDM received the Florida Department of Environmental Protection's (FDEP) draft Title V Permit No. 0990234-016-AV for the North County Resource Recovery Facility (NCRRF). The following is a compilation of SWA's and CDM's comments on the draft permit.

**Draft Title V Air Operation Permit - Section I. Facility Information**

- **Page I.-2, Second Paragraph:** The first sentence mentions the capacity of the BPF. We suggest that the word "approximately" be added in from of 20% solids.

Revise the forth sentence as follows: *"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."*

Delete the fifth sentence which says that natural gas is used as an alternate fuel.

Revise the sixth sentence statement "{for either landfill or natural gas}" with "*{for landfill gas and/or natural gas}*".

**Draft Title V Air Operation Permit - Section III. Emissions Units and Specific Conditions**

- **Page III.A.-1, Item A.1.0:** We would like to clarify that the permitted capacity is defined by steam flow rate of 324,000 lb/hr (4-hour block average) and not heat input.
- **Page III.A.-5, Item A.6:** Please change CO 400 ppmvd 1-hour block average to "*4-hour block average*".





Mr. Jonathan K. Holtom, P.E.  
August 3, 2010  
Page 2

- **Page III.D.-1, First Paragraph:** The third sentence states “Each dryer train at the BPF combusts landfill gas generated from the nearby landfill in a rotary drum dryer to dry sewage sludge, and then screens the dried sludge into marketable fertilizer pellets.” The BPF dryers run on landfill gas and/or natural gas. We suggest that this sentence be revised as follows: *“Each dryer at the BPF combust landfill gas generated from the nearby landfill and/or natural gas in a rotary drum dryer to dry sewage sludge, and then screen the dried sludge into marketable fertilizer pellets.”*
- **Page III.D.-1, First Paragraph:** Delete the fourth sentence: “Natural gas is used as an alternate fuel.”
- **Page III.D.-1, First Paragraph:** Revise the fifth sentence statement “{for either landfill or natural gas}” with *{for landfill gas and/or natural gas}*.
- **Page III.D.-1, Fourth Paragraph:** Add the following sentence after the third sentence: “Compliance with the visible emissions limit for the recycle bin fabric filter exhaust is determined at the building odor control scrubber exhaust.”
- **Page III.D.-1, Item D.1. Permitted Capacity:** The first and second sentences make reference to the percent solids of the permitted capacity in wet tons of sludge per day, i.e. “(wtpd, at 20% solids)”. Due to the variable nature of the incoming sludge, we request that the word approximately be added when making reference to the percent solids, i.e. *(wtpd, at approximately 20% solids)*.
- **Page III.D.-2, Item D.2. Methods of Operations - Fuels:** Revise the first sentence to say: *The dryers shall be fired by landfill gas and/or natural gas.*
- **Page III.D.-2, Item D.6.:** Revise the first sentence with: “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.”
- **Page III.D.-4, Item D.14. Compliance Testing:** In the summary of the test methods, we request that Method 7E be added as an alternate to Method 7 for the Determination of Nitrogen Oxides (revise with: *Method 7 or Method 7E Determination of Nitrogen Oxides Emissions*), and that Method 25A be added as an alternate to Method 25 (revise with: *Method 25 or Method 25A Determination of Volatile Organic Compound Emissions (I)*).



Mr. Jonathan K. Holtom, P.E.  
August 3, 2010  
Page 3

- **Page III.D.-4, Item D.15. Annual Compliance Test:** We request that the wording for the Annual Compliance Test be revised to make it clear that the only annual compliance test required is for VEs.

**Draft Title V Air Operation Permit - Table AP-1. Summary of Air Pollutants**

- Under the PM/PM10 & Opacity columns, the hours for the emergency generator should be 500 hours instead of 8760 hours.
- Under the PM/PM10 & Opacity columns, can the Cooling Tower be removed from the table as these have been identified as "insignificant" in the body of the permit?
- Under the Regulatory Citations(s) column, BACT should be replaced with Tier 3 for the emergency generator.
- Revise Footnote 3 to say "landfill gas and/or natural gas".

These comments have also been incorporated in the actual draft permit files received and included in **Attachment 1**.

We appreciate this opportunity to comment on the draft permit. If you have any questions, please feel free to contact me at 561-689-3336.

Very truly yours,

Manuel Hernandez, P.E.  
Project Manager  
Camp Dresser & McKee Inc.

MJH/aat

File: 2678-73671-191

cc: Mary Beth Morrison, SWA  
Scott M. Sheplak, FDEP  
Lennon Anderson, FDEP

ec: Cynthia Hibbard, CDM CAM

# **Attachment 1**

**SECTION I. FACILITY INFORMATION.**

**Subsection A. Facility Description.**

This facility consists of 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, each designed to operate up to a maximum heat input of 412,5427.5 MMBtu/hr with a steam flow rating of 324,000 lbs./hr. At a reference heating value of 5,5700 Btu/lb., this is equivalent to 900 TPD of RDF per boiler. Emissions from each boiler are captured in a B&W spray dryer followed by a B&W/BSH Krefield 4-field electrostatic precipitator (ESP). Each precipitator has a gas flow of approximately acfm and is designed to operate with three of the four fields in service. The turbine-generator rating of 62 MW matches the full output of the boilers.

The facility also contains a new Biosolids Pelletization Facility (BPF) with a nominal capacity of 675 wet tons of sludge per day (wtpd, at 20% solids). The BPF has two 337.5 wtpd process trains and related appurtenances. The BPF is located adjacent to the existing landfill. Each dryer train at the BPF combusts landfill gas generated from the nearby landfill in a rotary drum dryer to dry sewage sludge, and then screens the dried sludge into marketable fertilizer pellets. Natural gas is used as an alternate fuel. Each dryer has a rated capacity of 40 MMBtu/hr heat input {for either landfill or natural gas} plus an additional 2 MMBtu/hr heat input from each regenerative thermal oxidizer (RTO) for a total rated capacity of 84 MMBtu/hr heat input from the dryers and the RTO.

Two landfills are located on this property: a Class I Landfill and a Class III Landfill, each with its own gas collection system and flare. Additional facilities include: storage and handling facilities for RDF (waste) as well as storage and handling facilities for ash and ash treatment. Also, included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

Based on the Title V air operation permit renewal application received on May 2, 2005, this facility is a major source of hazardous air pollutants (HAP).

**Subsection B. Summary of Emissions Unit ID Nos. and Brief Descriptions.**

<b>E.U. ID Nos.</b>	<b>Brief Description</b>
<b>Regulated Emissions Units and/or Activities.</b>	
001	Municipal Solid Waste Boiler No. 1
002	Municipal Solid Waste Boiler No. 2
019	Ash Building and Handling System
-003	Class I Landfill (1,800 scfm Flare Removed)
-004	Class III Landfill and Existing ( <i>De-rated</i> ) Flare-1,800 scfm manufactured by Parnell Biogas.
-008	Class I Landfill and <i>New Replacement</i> Flare-3,500 scfm, manufactured by Shaw LFG Specialties, model number CF1238110.
-020	Class III Landfill Existing Flare-1,800 scfm ( <i>Backup use only</i> at the Class III Landfill) manufactured by LFG Specialties.
-021	<i>New</i> engine (emergency generator, < 500 hours/year) - ~220 brake HP (125 kW) manufactured by Caterpillar® (EPA Tier 3 certified), located at the new

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

**Subsection A. Emissions Units -001, -002 and -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

These emission units are solid waste combustors and are designated as Boiler Nos. 1 and 2. The boilers are B&W Sterling Power Boilers, and each is rated at a heat input of 412,5427.5 MMBtu./hr. at a steam flow rating of 324,000 lbs./hr. At a reference heating value of 55700 Btu/lb., this is equivalent to 900 TPD of RDF (75,000 lbs./hr. or 816 megagrams/day) per boiler. The facility is designed to process 2,000 TPD of mixed municipal solid waste with an annual throughput of 624,000 tons. Emissions from the boilers are controlled by spray dryer absorbers and electrostatic precipitators. The boilers have individual flues contained in a single stack casing. The facility began commercial operation in 1989.

*{Permitting note(s). These emissions units are regulated under NSPS - 40 CFR 60, Subpart Cb, Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors That Are Constructed on or Before September 20, 1994, adopted and incorporated by reference, subject to provisions, in Rule 62-204.800(8)(b), F.A.C.; Rule 62-212.400(5), F.A.C., Prevention of Significant Deterioration (PSD); Rule 62-212.400(6), F.A.C., Best Available Control Technology (BACT). Also, please note that conditions in 40 CFR 60, Subpart Cb, are contained in 40 CFR 60, Subpart Eb. These emissions units are also subject to Compliance Assurance Monitoring (CAM), adopted and incorporated by reference in Rule 62-204.800, F.A.C.}*

**The following Specific Conditions apply to the emissions units listed above:**

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

**A.1.0. Permitted Capacity.** The maximum heat input rates (operation rates) are as follows:

<b>E.U. ID No.</b>	<b>Steam Flow Rate <sup>a</sup></b>	<b>Heat Input Rate <sup>b</sup></b>	<b>Fuel Type</b>
001	324,000 lb/hour	412,5427.5	
002	324,000 lb/hour	412,5427.5	

We would like to clarify that the permitted capacity is defined by steam flow rate of 324,000 lb/hour (4-hour block average and not heat input.

**Notes:**

<sup>a</sup> 4 hour block average {See Specific Condition R.19.}

<sup>b</sup> Maximum heat input rate {24-hour average} is based upon a reference heating value of 55700 BTU/lb. of RDF. Actual heating values range from 4500 to 6200 BTU/lb.

*{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each emissions unit for purposes of confirming that emissions testing is conducted within 90-100 percent of the emissions unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate limits and to aid in determining future rule applicability.}*

[Rules 62-4.160(2) and 62-210.228(PTE), F.A.C.; PSD-FL-108A and 0990234-015-AC/PSD-FL-108H]

**A.1.1. Capacity.** The procedures specified below shall be used for calculating municipal waste combustor unit capacity as defined under 40 CFR 60.51b.

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units -001, -002 and -019

(1) For municipal waste combustor units capable of combusting municipal solid waste continuously for a 24-hour period, municipal waste combustor unit capacity shall be calculated based on 24 hours of operation at the maximum charging rate. The maximum charging rate shall be determined as specified in paragraph (i). For combustors that are designed based on heat capacity, the maximum charging rate shall be calculated based on the maximum design heat input capacity of the unit and a heating value of 12,800 kilojoules per kilogram for combustors firing refuse-derived fuel and a heating value of 10,500 kilojoules per kilogram for combustors firing municipal solid waste that is not refuse-derived fuel.  
[40 CFR 60.31b and 40 CFR 60.58b(j)]

**A.1.2. Emissions Unit Operating Rate Limitation After Testing.** See Specific Condition **T.12.**  
[Rule 62-297.310(2), F.A.C.]

**A.2. Maximum Demonstrated Municipal Waste Combustor Unit Load.** Maximum demonstrated municipal waste combustor unit load means the highest 4-hour arithmetic average municipal waste combustor unit load achieved during four consecutive hours during the most recent dioxin/furan performance test demonstrating compliance with the applicable limit for municipal waste combustor organics specified in Specific Condition **A.17.**  
[40 CFR 60.34b(b) and 40 CFR 60.51b]

**A.3. Maximum Demonstrated Particulate Matter Control Device Temperature.** Maximum demonstrated particulate matter control device temperature means the highest 4-hour arithmetic average flue gas temperature measured at the particulate matter control device inlet during four consecutive hours during the most recent dioxin/furan performance test demonstrating compliance with the applicable limit for municipal waste combustor organics specified in Specific Condition **A.17.**  
[40 CFR 60.34b(b) and 40 CFR 60.51b]

**A.4.0. Methods of Operation - Fuels.** Only refuse derived fuel (RDF) from mixed municipal solid waste (MSW) shall be fired in the combustors. No suspected or known hazardous, toxic or infectious wastes as defined by federal, state or local statutes, rules, regulations or ordinances shall be burned or landfilled at the site. No sludge from sewage treatment plants shall be used as fuel. Use of alternate fuels would necessitate application for a modification to this permit. Auxiliary burners firing gas fuel are to be used during periods of start-up and shut-down, and their annual capacity factor as determined by 40 CFR 60.43b(d) shall be less than 10%.  
[Rule 62-213.410(1), F.A.C.; PSD-FL-108A; and PA 84-20]

**A.4.1. Methods of Operation - Fuels** The only fuel allowed to be burned in the MWCs is refuse derived fuel (RDF) from mixed municipal solid waste. Other wastes shall not be burned without written prior approval from the Department. **The primary fuel for the facility is municipal solid waste (MSW), including the items and materials that fit within the definition of MSW contained in either 40 CFR 60.51b or Section 403.706(5), F.S.**  
[Rules 62-4.070(3), 62-213.410, and 62-213.440, F.A.C.]

**A.4.2.** 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 below. However, the facility shall not knowingly burn:

- (a) those materials that are prohibited by state or federal law;
- (b) those materials that are prohibited by this permit;
- (c) lead acid batteries;
- (d) hazardous waste;
- (e) nuclear waste;
- (f) radioactive waste;



## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units -001, -002 and -019

- (g) sewage sludge;
- (h) explosives;
- (i) beryllium-containing waste, as defined in 40 CFR 61, Subpart C\*;
- (j) untreated biomedical waste from biomedical waste generators regulated pursuant to Chapter 64E-16, F.A.C., and from other similar generators (or sources); and,
- (k) segregated loads of biological waste.

{\*See EPA letter dated April 6, 2000 on 40 CFR 61, Subpart C applicability.}

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

**A.4.3.** 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.

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

**A.4.4.** The facility 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, below (Specific Conditions **A.4.7.** and **A.4.8.**). 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.

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

**A.4.5.** To ensure that the facility's fuel does not adversely affect the facility's combustion process or emissions, the facility operator shall:

- (a) comply with good combustion operating practices in accordance with 40 CFR 60.53b;
- (b) install, operate and maintain continuous emissions monitors (CEMS) for oxygen (or carbon dioxide), carbon monoxide, sulfur dioxide, oxides of nitrogen and temperature in accordance with 40 CFR 60.58b; and
- (c) record and maintain the CEMS data in accordance with 40 CFR 60.59b.

These steps shall be used to ensure and verify continuous compliance with the emissions limitations in this permit.

Natural gas may be used as fuel during warm-up, startup, shutdown, and malfunction periods, and at other times when necessary and consistent with good combustion practices.

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

**A.4.6.** Subject to the conditions and limitations contained in this permit, the following other solid waste may be used as fuel at the facility:

- (a) Confidential, proprietary or special documents (including but not limited to business records, lottery tickets, event tickets, coupons and microfilm);
- (b) 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;
- (c) Wood pallets, clean wood, and land clearing debris;
- (d) Packaging materials and containers;
- (e) Clothing, natural and synthetic fibers, fabric remnants, and similar debris, including but not limited to aprons and gloves; or
- (f) Rugs, carpets, and floor coverings, but not asbestos-containing materials or polyethylene or polyurethane vinyl floor coverings.

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

#### Subsection A. Emissions Units -001, -002 and -019

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

**A.4.7.** 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 by using a rolling 30 day average.

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

*{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.4.8.** 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 by using a rolling 30-day average.

- (a) Construction and demolition debris.
- (b) Oil spill debris from aquatic, coastal, estuarine or river environments. Such items or materials include but are not limited to rags, wipes, and absorbents.
- (c) 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.
- (d) 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.
- (e) Waste materials that:
  - (i) are generated in the manufacture of items in categories (c) or (d), above and are functionally or commercially useless (expired, rejected or spent); or
  - (ii) 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.
- (f) Waste materials that contain oil from:
  - (i) the routine cleanup of industrial or commercial establishments and machinery; or
  - (ii) spills of virgin or used petroleum products. Such items or materials include but are not limited to rags, wipes, and absorbents.
- (g) Used oil and used oil filters. Used oil containing a PCB concentration equal or greater than 50 ppm shall not be burned, pursuant to the limitations of 40 CFR 761.20(e).
- (h) 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 prior approval of the Department.

[Rules 62-4.070(3) and 62-213.440, F.A.C.]

*{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.5. Hours of Operation.** These emission units may operate continuously, i.e., 8,760 hours/year.

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

**Subsection A. Emissions Units -001, -002 and -019**

[PSD-FL-108A]

**Emission Limitations and Standards**

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

**A.6. Stack Emissions.** Emissions from each unit shall not exceed the following limits:

Pollutant	PSD-FL-108A Permit Limit <sup>a</sup>	Federal Emission Guidelines <sup>a</sup>
Particulate Matter <sup>b</sup>	0.015 grains/dscf	27 mg/dscm
NOx <sup>b</sup>	0.48 lb/MMBtu (24 hr block avg)	250 ppmvd (24 hr block avg)
Carbon Monoxide <sup>b</sup>	400 ppmvd ( <del>1-hr block avg</del> )/ 200 ppmvd (24 hr block avg)	200 ppmvd (24 hr block avg)
Lead <sup>b</sup>	4.0 x 10 <sup>-4</sup> lb/MMBtu	0.440 mg/dscm
Mercury <sup>b</sup>	2.4 x 10 <sup>-4</sup> lb/MMBtu	0.070 mg/dscm
Beryllium	7.3 x 10 <sup>-7</sup> lb/MMBtu	
Fluoride	3.2 x 10 <sup>-3</sup> lb/MMBtu	
VOC	1.6 x 10 <sup>-2</sup> lb/MMBtu	
SO <sub>2</sub> <sup>b</sup>	70% removal or 30 ppmvd	75% removal or 29 ppmvd
Hydrogen Chloride <sup>b</sup>	90% removal or 25 ppmvd	95% removal or 29 ppmvd
Dioxins/Furans <sup>b</sup>	60 ng/dscm	60 ng/dscm
Opacity	10% (6 minute avg)	10% (6 minute avg)
Cadmium <sup>b</sup>		0.040 mg/dscm

Notes: <sup>a</sup> the more stringent limit/guideline applies.

<sup>b</sup> corrected to 7% O<sub>2</sub>.

[40 CFR 60, Subpart Cb; Rule 62-296.416(3)(b)1.b., F.A.

Please change CO 400 ppmvd 1-hour block average to 4-hour block average.

**Particulate Matter**

**A.7.** The emission limit for particulate matter contained in the gases discharged to the atmosphere is 27 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.

[40 CFR 60.33b(a)(1)(i)]

*{Permitting note: Unless otherwise specified, the averaging time for this condition is based on the specified averaging time of the applicable test method.}*

**Visible Emissions**

**A.8.** The emission limit for opacity exhibited by the gases discharged to the atmosphere is 10 percent (6-minute average). CEM readings when the process is not operating shall be excluded from averaging calculations.

[40 CFR 60.33b(a)(1)(iii)]

**Cadmium**

**A.9.** The emission limit for cadmium contained in the gases discharged to the atmosphere is 0.040 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.

[40 CFR 60.33b(a)(2)(i)]

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units -001, -002 and -019

*{Permitting note: Unless otherwise specified, the averaging time for this condition is based on the specified averaging time of the applicable test method.}*

#### Mercury

**A.10.** The emission limit for mercury contained in the gases discharged to the atmosphere is 0.070 milligrams 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.  
[40 CFR 60.33b(a)(3); and Rule 62-296.416(3)(a)1., F.A.C.]

*{Permitting note: Unless otherwise specified, the averaging time for this condition is based on the specified averaging time of the applicable test method.}*

**A.11.** Facilities subject to the mercury emissions limiting standard of Rule 62-296.416(3)(a)1., F.A.C., shall demonstrate individual emissions unit compliance by the compliance date specified in Rule 62-296.416(3)(a)2., F.A.C., and annually thereafter.  
[Rule 62-296.416(3)(a)3., F.A.C.; and **Order Granting Variance dated August 25, 1997.**]

**A.12.** Emissions Standards for Facilities Using Waste Separation. The Department recognizes that reduction of mercury emissions from waste-to-energy facilities may be achieved by implementation of mercury waste separation programs. Such programs would require removal of objects containing mercury from the waste stream before the waste is used as a fuel.

1. Facilities with sulfur dioxide and hydrogen chloride control equipment in place or under construction as of July 1, 1993, and which choose to control mercury emissions exclusively through the use of a waste separation program, shall submit a program plan to the Department by March 1, 1994, and shall comply with the following emissions limiting schedule.

a. After July 1, 1995, mercury emissions shall not exceed 140 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O<sub>2</sub>.

b. After July 1, 1997, mercury emissions shall not exceed 70 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O<sub>2</sub>.

2. Beginning no later than July 1, 1994, facilities subject to Rule 62-296.416(3)(b)1., F.A.C., shall perform semiannual individual emissions unit mercury emissions tests. Facilities shall stagger the semiannual testing of individual emissions units such that at least one test is performed quarterly. All tests conducted after July 1, 1995, shall be used to demonstrate compliance with the mercury emissions limiting standards of Rule 62-296.416(3)(b)1., F.A.C.

3. Facilities which do not have sulfur dioxide and hydrogen chloride control equipment in place or under construction as of July 1, 1993, and which choose to control mercury emissions exclusively through the use of a waste separation program, shall comply with a mercury emission limitation of 70 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O<sub>2</sub>, by the later of July 1, 1997, or the date that the facility is required to demonstrate compliance with sulfur dioxide and hydrogen chloride emission limits, which limits are established after July 1, 1993. If the facility is required to demonstrate compliance with sulfur dioxide and hydrogen chloride emission limits by a date prior to July 1, 1997, it shall comply with a mercury emission limitation of 140 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O<sub>2</sub>, by that date and until July 1, 1997.

4. Facilities subject to Rule 62-296.416(3)(b)3., F.A.C., shall demonstrate individual emissions unit compliance with the mercury emission limiting standard by the date specified therein and semiannually thereafter. Facilities shall stagger the semiannual testing of individual emissions units such that at least one test is performed quarterly.

[Rule 62-296.416(3)(b), F.A.C.; and **Order Granting Variance dated August 25, 1997.**]

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

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### Subsection A. Emissions Units -001, -002 and -019

**A.13.** Mercury Emissions Inventory. For emissions inventory purposes, all waste-to-energy facilities with charging rates of 40 tons or more per day shall perform annual individual emissions unit mercury emissions tests and report the results to the Department. This testing shall begin during calendar year 1993 and end upon initiation of mercury testing pursuant to Rule 62-296.416(3)(a) or (b), F.A.C.  
[Rule 62-296.416(3)(c), F.A.C.]

#### **Lead**

**A.14.** The emission limit for lead contained in the gases discharged to the atmosphere is 0.44 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.  
[40 CFR 60.33b(a)(4)]

*{Permitting note: Unless otherwise specified, the averaging time for this condition is based on the specified averaging time of the applicable test method.}*

#### **Sulfur Dioxide**

**A.15.** The emission limit for sulfur dioxide contained in the gases discharged to the atmosphere is 29 parts per million by volume 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.  
[40 CFR 60.33b(b)(3)(i)]

#### **Hydrogen Chloride**

**A.16.** The emission limit for hydrogen chloride contained in the gases discharged to the atmosphere is 29 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.  
[40 CFR 60.33b(b)(3)(ii)]

*{Permitting note: Unless otherwise specified, the averaging time for this condition is based on the specified averaging time of the applicable test method.}*

#### **Dioxins/Furans**

**A.17.** The emission limit for dioxins/furans contained in the gases discharged to the atmosphere that employ an electrostatic precipitator-based emission control system is 60 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen.  
[40 CFR 60.33b(c)(1)(i)]

*{Permitting note: Unless otherwise specified, the averaging time for this condition is based on the specified averaging time of the applicable test method.}*

#### **Nitrogen Oxides**

**A.18.** The emission limit for nitrogen oxides contained in the gases discharged to the atmosphere is 250 parts per million by volume, corrected to 7 percent oxygen, dry basis calculated as an arithmetic average. The averaging time is a 24-hour block average.  
[40 CFR 60.33b(d); and PSD-FL-108A]

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units -001, -002 and -019

#### **Carbon Monoxide**

**A.19.** The emission limit for carbon monoxide contained in the gases discharged to the atmosphere is 200 parts per million by volume dry (ppmvd) (24-hour block average) and 400 ppmvd (14-hour block average), measured at the combustor outlet in conjunction with a measurement or calculation of oxygen concentration, corrected to 7 percent oxygen, dry basis. Calculated as an arithmetic average.

[40 CFR 60.34b(a); PSD-FL-108A, and 0990234-015-AC/PSD-FL-108H]

#### **Volatile Organic Compounds**

**A.20.** Volatile organic compound (VOC) emissions shall not exceed  $1.6 \times 10^{-2}$  lb/MMBTU.

[PSD-FL-108A]

*{Permitting note: Unless otherwise specified, the averaging time for this condition is based on the specified averaging time of the applicable test method.}*

#### **Beryllium**

**A.21.** Beryllium emissions shall not exceed  $7.3 \times 10^{-7}$  lb/MMBTU.

[PSD-FL-108A]

*{Permitting note: Unless otherwise specified, the averaging time for this condition is based on the specified averaging time of the applicable test method.}*

#### **Fluoride**

**A.22.** Fluoride emissions shall not exceed  $3.2 \times 10^{-3}$  lb/MMBTU.

[PSD-FL-108A]

*{Permitting note: Unless otherwise specified, the averaging time for this condition is based on the specified averaging time of the applicable test method.}*

#### **Fugitive Ash Emissions**

**A.23.** Fugitive Ash Emissions

(a) On and after the date on which the initial performance test is completed or is required to be completed under 40 CFR 60.8 of Subpart A, 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). See Specific Condition **T.10**.

(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.

[40 CFR 60.36b and 40 CFR 60.55b]

#### **Excess Emissions**

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

#### Subsection A. Emissions Units -001, -002 and -019

*{Permitting Note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of an NSPS, NESHAP, or Acid Rain program provision.}*

**E.1.** The opacity standards set forth in 40 CFR 60 shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.

[40 CFR 60.11(c)]

**E.2.** At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

[40 CFR 60.11(d)]

**E.3.a. Startup, Shutdown and Malfunction Provisions.** The provisions from the applicable federal new source performance standards for startup, shutdown, and malfunction are provided in paragraph (1).

(1) Except as provided by 40 CFR 60.56b, the standards under 40 CFR 60, Subpart Cb, as incorporated in Rule 62-204.800, F.A.C., and this permit shall apply at all times except during periods of startup, shutdown, or malfunction. Duration of startup, shutdown, or malfunction periods are limited to **3 (three)** hours per occurrence, except as provided in CFR 60.58b(a)(1)(iii).

(i) The startup period commences when the affected facility begins the continuous burning of municipal solid waste and does not include any warm-up period when the affected facility is combusting fossil fuel or other nonmunicipal solid waste and no municipal solid waste is being fed to the combustor.

(ii) Continuous burning is the continuous, semi-continuous, or batch feeding of municipal solid waste for purposes of waste disposal, energy production, or providing heat to the combustion system in preparation for waste disposal or energy production. The use of municipal solid waste solely to provide thermal protection of the grate or hearth during the startup period when municipal solid waste is not being fed to the grate is not considered to be continuous burning.

(iii) For the purposes of compliance with the carbon monoxide emission limits in 40 CFR 60.53b(a), if a loss of a boiler water level control (e.g. boiler waterwall tube failure) or a loss of combustion air control (e.g. loss of combustion air fan, induced draft fan, combustion grate bar failure) is determined to be a malfunction, the duration of the malfunction period is limited to **15 (fifteen)** hours per occurrence.

(2) For the purposes of this condition, a malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions. [40 CFR 60.2, Definitions]

[40 CFR 60.38b and 40 CFR 60.58b(a); 40 CFR 60.2, Definitions; and, PSD-FL-108A]

**E.3.b. Startup, Shutdown and Malfunction.** Excess emissions resulting from malfunction, startup or shutdown shall be permitted providing:

(1) 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 and particulate control device are fully operational.

(2) during normal, non-emergency boiler shutdown, the auxiliary gas burners shall be operated at their maximum capacity until all RDF has been combusted.

[Rule 62-210.700(1), F.A.C.; and PSD-FL-108A]

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

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### Subsection A. Emissions Units -001, -002 and -019

**E.4.** Excess emissions resulting from malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed **3 (three)** hours per occurrence unless specifically authorized by the Department for longer duration.

For the purposes of this condition, a malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions. [40 CFR 60.2, Definitions]

[Rule 62-210.700(1), F.A.C.; 40 CFR 60.2, Definitions; and, PSD-FL-108A]

**E.5.** 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.]

### **Operating Practices and Requirements**

**O.1.** No owner or operator of an affected facility shall cause such facility to operate at a load level greater than 110 percent of the maximum demonstrated municipal waste combustor unit load as defined in Specific Condition **A.2.**, except as specified below. The averaging time is specified in Specific Condition **O.3.**

(1) During the annual dioxin/furan performance test and the two weeks preceding the annual dioxin/furan performance test, no municipal waste combustor unit load limit is applicable.

(2) The municipal waste combustor unit load limit may be waived in accordance with permission granted by the Administrator or delegated State regulatory authority for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions.

[40 CFR 60.34b(b) and 40 CFR 60.53b(b)]

**O.2.** No owner or operator of an affected facility shall cause such facility to operate at a temperature, measured at the particulate matter control device inlet, exceeding 17°C above the maximum demonstrated particulate matter control device temperature as defined in Specific Condition **A.3.**, except as specified below. The averaging time is specified in Specific Condition **O.3.** These requirements apply to each particulate matter control device utilized at the affected facility.

(1) During the annual dioxin/furan performance test and the two weeks preceding the annual dioxin/furan performance test, no particulate matter control device temperature limitations are applicable.

(2) The particulate matter control device temperature limits may be waived in accordance with permission granted by the Administrator or delegated State regulatory authority for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions.

[40 CFR 60.34b(b) and 40 CFR 60.53b(c)]

**O.3. Operating Requirements.** The procedures specified in paragraphs (1) through (12) shall be used for determining compliance with the operating requirements under 40 CFR 60.53b.

(1) Compliance with the carbon monoxide emission limits in 40 CFR 60.53b(a) shall be determined using a 4-hour block arithmetic average for all types of affected facilities except mass burn rotary waterwall municipal waste combustors and refuse-derived fuel stokers.

(2) For affected mass burn rotary waterwall municipal waste combustors and refuse-derived fuel stokers, compliance with the carbon monoxide emission limits in 40 CFR 60.53b(a) shall be determined using a 24-hour daily arithmetic average.



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

#### Subsection A. Emissions Units -001, -002 and -019

(3) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous emission monitoring system for measuring carbon monoxide at the combustor outlet and record the output of the system and shall follow the procedures and methods specified in paragraphs(i) through(iii).

(i) The continuous emission monitoring system shall be operated according to Performance Specification 4A in appendix B of 40 CFR 60.

(ii) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 4A in appendix B of 40 CFR 60, carbon monoxide and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (A) and (B).

(A) For carbon monoxide, EPA Reference Method 10, 10A, or 10B shall be used.

(B) For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, as applicable shall be used.

(iii) The span value of the continuous emission monitoring system shall be 125 percent of the maximum estimated hourly potential carbon monoxide emissions of the municipal waste combustor unit.

(4) The 4-hour block and 24-hour daily arithmetic averages specified in paragraphs (1) and (2) shall be calculated from 1-hour arithmetic averages expressed in parts per million by volume corrected to 7 percent oxygen (dry basis). The 1-hour arithmetic averages shall be calculated using the data points generated by the continuous emission monitoring system. At least two data points shall be used to calculate each 1-hour arithmetic average.

(5) The owner or operator of an affected facility may request that compliance with the carbon monoxide emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in 40 CFR 60.58b(b)(6).

(6) The procedures specified in paragraphs (i) through (v) shall be used to determine compliance with load level requirements under 40 CFR 60.53b(b).

(i) The owner or operator of an affected facility with steam generation capability shall install, calibrate, maintain, and operate a steam flow meter or a feedwater flow meter; measure steam (or feedwater) flow in kilograms per hour (or pounds per 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.

(ii) The method included in the "American Society of Mechanical Engineers Power Test Codes: Test Code for Steam Generating Units, Power Test Code 4.1-1964 (R1991)" section 4 (incorporated by reference, see 40 CFR 60.17) shall be used for calculating the steam (or feedwater) flow required under paragraph (6)(i). The recommendations in "American Society of Mechanical Engineers Interim Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid Meters, 6th edition (1971)," chapter 4 (incorporated by reference-see 40 CFR 60.17) shall be followed for design, construction, installation, calibration, and use of nozzles and orifices except as specified in (iii).

(iii) Measurement devices such as flow nozzles and orifices are not required to be recalibrated after they are installed.

(iv) All signal conversion elements associated with steam (or feedwater flow) measurements must be calibrated according to the manufacturer's instructions before each dioxin/furan performance test, and at least once per year.

(7) To determine compliance with the maximum particulate matter control device temperature requirements under 40 CFR 60.53b(c), the owner or operator of an affected facility shall install, 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 by the affected facility. Temperature shall be calculated in 4-hour block arithmetic averages.

(8) The maximum demonstrated municipal waste combustor unit load shall be determined during the initial performance test for dioxins/furans and each subsequent performance test during which compliance with the dioxin/furan emission limit specified in 40 CFR 60.52b(c) is achieved. The maximum demonstrated municipal

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

#### Subsection A. Emissions Units -001, -002 and -019

waste combustor unit load shall be the highest 4-hour arithmetic average load achieved during four consecutive hours during the most recent test during which compliance with the dioxin/furan emission limit was achieved.

(9) For each particulate matter control device employed at the affected facility, the maximum demonstrated particulate matter control device temperature shall be determined during the initial performance test for dioxins/furans and each subsequent performance test during which compliance with the dioxin/furan emission limit specified in 40 CFR 60.52b(c) is achieved. The maximum demonstrated particulate matter control device temperature shall be the highest 4-hour arithmetic average temperature achieved at the particulate matter control device inlet during four consecutive hours during the most recent test during which compliance with the dioxin/furan limit was achieved.

(10) At a minimum, valid continuous emission monitoring system hourly averages shall be obtained as specified in paragraphs(i) and(ii) for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting municipal solid waste.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) At a minimum, each carbon monoxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) continuous emission monitoring system data.

(11) All valid continuous emission monitoring system data must be used in calculating the parameters specified under 40 CFR 60.58b(i) even if the minimum data requirements of paragraph (10) are not met. When carbon monoxide continuous emission data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained using other monitoring systems as approved by the Administrator or EPA Reference Method 10 to provide, as necessary, the minimum valid emission data.

(12) Quarterly accuracy determinations and daily calibration drift tests for the carbon monoxide continuous emission monitoring system shall be performed in accordance with procedure 1 in appendix F of 40 CFR 60. [40 CFR 60.38b and 40 CFR 60.58b(i)]

#### **Operator Training and Certification**

##### **OT.1. Standards for municipal waste combustor operator training and certification.**

(a) No later than the date 6 months after the date of startup of an affected facility or 12 months after State plan approval [40 CFR 60.39b(c)(4)(ii)], whichever is later, each chief facility operator and shift supervisor shall obtain and maintain a current provisional operator certification from either the American Society of Mechanical Engineers [QRO-1-1994 (incorporated by reference - see 40 CFR 60.17 of Subpart A)] or a State certification program.

(b) No later than the date 6 months after the date of startup of an affected facility or 12 months after State plan approval [40 CFR 60.39b(c)(4)(ii)], whichever is later, each chief facility operator and shift supervisor shall have completed full certification or shall have scheduled a full certification exam with either the American Society of Mechanical Engineers [QRO-1-1994 (incorporated by reference - see 40 CFR 60.17 of Subpart A)] or a State certification program.

(c) No owner or operator of an affected facility shall allow the facility to be operated at any time unless one of the following persons is on duty and at the affected facility: A fully certified chief facility operator, a provisionally certified chief facility operator who is scheduled to take the full certification exam according to the schedule specified in paragraph (b), a fully certified shift supervisor, a provisionally certified shift supervisor who is scheduled to take the full certification exam according to the schedule specified in paragraph (b).

(1) The requirement specified in paragraph (c) shall take effect 6 months after the date of startup of the affected facility or 12 months after State plan approval [40 CFR 60.39b(c)(4)(ii)], whichever is later.

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

### **Subsection A. Emissions Units -001, -002 and -019**

- (2) If one of the persons listed in paragraph (c) must leave the affected facility during their operating shift, a provisionally certified control room operator who is onsite at the affected facility may fulfill the requirement in paragraph (c).
- (d) All chief facility operators, shift supervisors, and control room operators at affected facilities must complete the EPA or State municipal waste combustor operator training course no later than the date 6 months after the date of startup of the affected facility, or by 12 months after State plan approval [40 CFR 60.39b(c)(4)(iii)], whichever is later.
- (e) The owner or operator of an affected facility shall develop and update on a yearly basis a site-specific operating manual that shall, at a minimum, address the elements of municipal waste combustor unit operation specified in paragraphs (e)(1) through (e)(11).
- (1) A summary of the applicable standards;
  - (2) A description of basic combustion theory applicable to a municipal waste combustor unit;
  - (3) Procedures for receiving, handling, and feeding municipal solid waste;
  - (4) Municipal waste combustor unit startup, shutdown, and malfunction procedures;
  - (5) Procedures for maintaining proper combustion air supply levels;
  - (6) Procedures for operating the municipal waste combustor unit within the standards established;
  - (7) Procedures for responding to periodic upset or off-specification conditions;
  - (8) Procedures for minimizing particulate matter carryover;
  - (9) Procedures for handling ash;
  - (10) Procedures for monitoring municipal waste combustor unit emissions; and
  - (11) Reporting and recordkeeping procedures.
- (f) The owner or operator of an affected facility shall establish a training program to review the operating manual according to the schedule specified in paragraphs (f)(1) and (f)(2) with each person who has responsibilities affecting the operation of an affected facility including, but not limited to, chief facility operators, shift supervisors, control room operators, ash handlers, maintenance personnel, and crane/load handlers.
- (1) Each person specified in paragraph (f) shall undergo initial training no later than the date specified in paragraph (f)(1)(i), (f)(1)(ii), or (f)(1)(iii), whichever is later.
    - (i) The date 6 months after the date of startup of the affected facility;
    - (ii) The date prior to the day the person assumes responsibilities affecting municipal waste combustor unit operation; or
    - (iii) 12 months after State plan approval [40 CFR 60.39b(c)(4)(iii)].
  - (2) Annually, following the initial review required by paragraph (f)(1).
- (g) The operating manual required by paragraph (e) shall be kept in a readily accessible location for all persons required to undergo training under paragraph (f). The operating manual and records of training shall be available for inspection by the EPA or its delegated enforcement agency upon request.  
[40 CFR 60.35b, 40 CFR 60.39b(c)(4)(ii) & (iii), and 40 CFR 60.54b]

**OT.2.** The requirement specified in 40 CFR 60.54b(d) does not apply to chief operators, shift supervisors, and control room operators who have obtained full certification from the American Society of Mechanical Engineers on or before the date of State plan approval.  
[40 CFR 60.39b(c)(4)(iii)(A)]

**OT.3.** The owner or operator of a designated facility may request that the EPA Administrator waive the requirement specified in 40 CFR 60.54b(d) for chief operators, shift supervisors, and control room operators who have obtained provisional certification from the American Society of Mechanical Engineers on or before the date of State plan approval.  
[40 CFR 60.39b(c)(4)(iii)(B)]

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

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### Subsection A. Emissions Units -001, -002 and -019

**OT.4.** The initial training requirements specified in 40 CFR 60.54b(f)(1) shall be completed no later than the date specified in (1), (2), or (3), whichever is later.

(1) The date six (6) months after the date of startup of the affected facility;

(2) Twelve (12) months after State plan approval; or

(3) The date prior to the day when the person assumes responsibilities affecting municipal waste combustor unit operation.

[40 CFR 60.39b(c)(4)(iii)(C)]

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

*{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}*

**T.1.** These combustors are regulated individually and must be tested individually.

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

**T.2.** Performance Tests.

(a) Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).

(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

(c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

[40 CFR 60.8]

#### **Particulate Matter and Opacity**

**T.3.** The procedures and test methods specified in paragraphs (1) through (11) shall be used to determine compliance with the emission limits for particulate matter and opacity.

(1) The EPA Reference Method 1 shall be used to select sampling site and number of traverse points.

(2) The EPA Reference Method 3, 3A, or 3B, as applicable shall be used for gas analysis.

(3) The EPA Reference Method 5 shall be used for determining compliance with the particulate matter emission limit. The minimum sample volume shall be 1.7 cubic meters. The probe and filter holder heating systems in the

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## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

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### Subsection A. Emissions Units -001, -002 and -019

sample train shall be set to provide a gas temperature no greater than  $160 \pm 14$  °C. An oxygen or carbon dioxide measurement shall be obtained simultaneously with each Method 5 run.

(4) The owner or operator of an affected facility may request that compliance with the particulate matter emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph (6).

(5) As specified under 40 CFR 60.8, all performance tests shall consist of three test runs. The average of the particulate matter emission concentrations from the three test runs is used to determine compliance.

(6) In accordance with paragraphs (7) and (11), EPA Reference Method 9 shall be used for determining compliance with the opacity limit except as provided under 40 CFR 60.11(e)

(7) The owner or operator of an affected facility shall conduct an initial performance test for particulate matter emissions and opacity as required under 40 CFR 60.8.

(8) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous opacity monitoring system for measuring opacity and shall follow the methods and procedures specified in paragraphs (8)(i) through (8)(iv).

(i) The output of the continuous opacity monitoring system shall be recorded on a 6-minute average basis.

(ii) The continuous opacity monitoring system shall be installed, evaluated, and operated in accordance with 40 CFR 60.13.

(iii) The continuous opacity monitoring system shall conform to Performance Specification 1 in appendix B of 40 CFR 60.

(iv) The initial performance evaluation shall be completed no later than 180 days after the date of the initial startup of the municipal waste combustor unit, as specified under 40 CFR 60.8.

(9) Following the date that the initial performance test for particulate matter is completed or is required to be completed under 40 CFR 60.8 for an affected facility, the owner or operator shall conduct a performance test for particulate matter on an annual basis (no more than 12 calendar months following the previous performance test).

(10) [reserved]

(11) Following the date that the initial performance test for opacity is completed or is required to be completed under 40 CFR 60.8 for an affected facility, the owner or operator shall conduct a performance test for opacity on an annual basis (no more than 12 calendar months following the previous performance test) using the test method specified in paragraph (6).

[40 CFR 60.38b and 40 CFR 60.58b(c)]

### **Cadmium, Lead and Mercury**

**T.4.** The procedures and test methods specified in paragraphs (1) and (2) shall be used to determine compliance with the emission limits for cadmium, lead, and mercury.

(1) The procedures and test methods specified in paragraphs (1)(i) through (1)(ix) shall be used to determine compliance with the emission limits for cadmium and lead.

(i) The EPA Reference Method 1 shall be used for determining the location and number of sampling points.

(ii) The EPA Reference Method 3, 3A, or 3B, as applicable, shall be used for flue gas analysis.

(iii) The EPA Reference Method 29 shall be used for determining compliance with the cadmium and lead emission limits.

(iv) An oxygen or carbon dioxide measurement shall be obtained simultaneously with each Method 29 test run for cadmium and lead required under paragraph (1)(iii).

(v) The owner or operator of an affected facility may request that compliance with the cadmium or lead emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6).

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

#### Subsection A. Emissions Units -001, -002 and -019

(vi) All performance tests shall consist of a minimum of three test runs conducted under representative full load operating conditions. The average of the cadmium or lead emission concentrations from three test runs or more shall be used to determine compliance.

(vii) Following the date of the initial performance test or the date on which the initial performance test is required to be completed under 40 CFR 60.8, the owner or operator of an affected facility shall conduct a performance test for compliance with the emission limits for cadmium and lead on an annual basis (no more than 12 calendar months following the previous performance test).

(viii) [reserved]

(ix) [reserved]

(2) The procedures and test methods specified in paragraphs (2)(i) through (2)(xi) shall be used to determine compliance with the mercury emission limit.

(i) The EPA Reference Method 1 shall be used for determining the location and number of sampling points.

(ii) The EPA Reference Method 3, 3A, or 3B, as applicable, shall be used for flue gas analysis.

(iii) The EPA Reference Method 29 shall be used to determine the mercury emission concentration. The minimum sample volume when using Method 29 for mercury shall be 1.7 cubic meters.

(iv) An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 29 test run for mercury required under paragraph (2)(iii).

(v) The percent reduction in the potential mercury emissions ( $\%P_{HG}$ ) is computed using equation 1:

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where:

$\%P_{HG}$  = percent reduction of the potential mercury emissions achieved.

$E_i$  = potential mercury emission concentration measured at the control device inlet, corrected to 7 percent oxygen (dry basis).

$E_o$  = controlled mercury emission concentration measured at the mercury control device outlet, corrected to 7 percent oxygen (dry basis).

(vi) All performance tests shall consist of a minimum of three test runs conducted under representative full load operating conditions. The average of the mercury emission concentrations or percent reductions from three test runs or more is used to determine compliance.

(vii) The owner or operator of an affected facility may request that compliance with the mercury emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6).

(viii) The owner or operator of an affected facility shall conduct an initial performance test for mercury emissions as required under 40 CFR 60.8.

(ix) Following the date that the initial performance test for mercury is completed or is required to be completed under 40 CFR 60.8, the owner or operator of an affected **facility shall conduct a performance test for mercury emissions on an annual basis** (no more than 12 calendar months from the previous performance test).

(x) [reserved]

(xi) [not applicable]

[40 CFR 60.38b and 40 CFR 60.58b(d)]

**T.5. Mercury Emissions Test Method and Procedures.** All mercury emissions tests performed pursuant to the requirements of this rule shall comply with the following provisions.

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units -001, -002 and -019

1. The test method for mercury shall be EPA Method 29 adopted in Chapter 62-297, F.A.C.
  2. Test procedures shall meet all applicable requirements of Chapter 62-297, F.A.C.
    - (4) Flue Gas Temperature Standard. Waste-to-energy facilities choosing to control mercury emissions through the use of post-combustion control equipment designed to remove mercury from flue gases shall comply with the flue gas temperature standard of Rule 62-296.416(4)(a), F.A.C.
      - (a) Temperature Standard. The flue gas temperature standard set forth in 40 CFR 60.53b(c), incorporated by reference in Rule 62-04.800, F.A.C., shall apply.
      - (b) Temperature Monitoring. The temperature monitoring requirements set forth in 40 CFR 60.58b(i), incorporated by reference in Rule 62-204.800, F.A.C., shall apply.
- [Rule 62-296.416(3)(d), F.A.C.]

#### Sulfur Dioxide

**T.6.** The procedures and test methods specified in paragraphs (1) through (14) shall be used for determining compliance with the sulfur dioxide emission.

- (1) The EPA Reference Method 19, section 4.3, shall be used to calculate the daily geometric average sulfur dioxide emission concentration.
- (2) The EPA Reference Method 19, section 5.4, shall be used to determine the daily geometric average percent reduction in the potential sulfur dioxide emission concentration.
- (3) The owner or operator of an affected facility may request that compliance with the sulfur dioxide emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in 40 CFR 60.58b(b)(6).
- (4) The owner or operator of an affected facility shall conduct an initial performance test for sulfur dioxide emissions as required under 40 CFR 60.8. Compliance with the sulfur dioxide emission limit (concentration or percent reduction) shall be determined by using the continuous emission monitoring system specified in paragraph (5) to measure sulfur dioxide and calculating a 24-hour daily geometric average emission concentration or a 24-hour daily geometric average percent reduction using EPA Reference Method 19, sections 4.3 and 5.4, as applicable.
- (5) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous emission monitoring system for measuring sulfur dioxide emissions discharged to the atmosphere and record the output of the system.
- (6) Following the date that the initial performance test for sulfur dioxide is completed or is required to be completed under 40 CFR 60.8, compliance with the sulfur dioxide emission limit shall be determined based on the 24-hour daily geometric average of the hourly arithmetic average emission concentrations using continuous emission monitoring system outlet data if compliance is based on an emission concentration, or continuous emission monitoring system inlet and outlet data if compliance is based on a percent reduction.
- (7) At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs (7)(i) and (7)(ii) for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting municipal solid waste.
  - (i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.
  - (ii) Each sulfur dioxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) continuous emission monitoring system data.
- (8) The 1-hour arithmetic averages required under paragraph (6) shall be expressed in parts per million corrected to 7 percent oxygen (dry basis) and used to calculate the 24-hour daily geometric average emission concentrations and daily geometric average emission percent reductions. The 1-hour arithmetic averages shall be calculated using the data points required under 40 CFR 60.13(e)(2).

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units -001, -002 and -019

- (9) All valid continuous emission monitoring system data shall be used in calculating average emission concentrations and percent reductions even if the minimum continuous emission monitoring system data requirements of paragraph (7) are not met.
- (10) The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous emission monitoring system.
- (11) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the municipal waste combustor as specified under 40 CFR 60.8.
- (12) The continuous emission monitoring system shall be operated according to Performance Specification 2 in 40 CFR 60 appendix B.
- (i) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 2 in 40 CFR 60 appendix B, sulfur dioxide and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (A) and (B).
- (A) For sulfur dioxide, EPA Reference Method 6, 6A, or 6C shall be used.
- (B) For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, as applicable shall be used.
- (ii) The span value of the continuous emissions monitoring system at the inlet to the sulfur dioxide control device shall be 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the municipal waste combustor unit. The span value of the continuous emission monitoring system at the outlet of the sulfur dioxide control device shall be 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the municipal waste combustor unit.
- (13) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 1 in appendix F of 40 CFR 60.
- (14) When sulfur dioxide emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 to provide, as necessary, valid emissions data for a minimum of 75 percent of the hours per day that the affected facility is operated and combusting municipal solid waste for 90 percent of the days per calendar quarter that the affected facility is operated and combusting municipal solid waste.
- [40 CFR 60.38b and 40 CFR 60.58b(e)]

### Hydrogen Chloride

**T.7.** The procedures and test methods specified in paragraphs (1) through (8) shall be used for determining compliance with the hydrogen chloride emission limit.

- (1) The EPA Reference Method 26<sup>1</sup> or 26A, as applicable, shall be used to determine the hydrogen chloride emission concentration. The minimum sampling time for Method 26 shall be 1 hour.
- (2) An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 26 test run for hydrogen chloride required by paragraph (1).
- (3) The percent reduction in potential hydrogen chloride emissions (% P<sub>HCl</sub>) is computed using equation 2:

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where:

%P<sub>HCl</sub>=percent reduction of the potential hydrogen chloride emissions achieved.

E<sub>i</sub>=potential hydrogen chloride emission concentration measured at the control device inlet, corrected to 7 percent oxygen (dry basis).



## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units -001, -002 and -019

$E_o$ =controlled hydrogen chloride emission concentration measured at the control device outlet, corrected to 7 percent oxygen (dry basis).

(4) The owner or operator of an affected facility may request that compliance with the hydrogen chloride emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in 40 CFR 60.58b(b)(6).

(5) As specified under 40 CFR 60.8, all performance tests shall consist of three test runs. The average of the hydrogen chloride emission concentrations or percent reductions from the three test runs is used to determine compliance.

(6) The owner or operator of an affected facility shall conduct an initial performance test for hydrogen chloride as required under 40 CFR 60.8.

(7) Following the date that the initial performance test for hydrogen chloride is completed or is required to be completed under 40 CFR 60.8, the owner or operator of an affected facility shall conduct a performance test for hydrogen chloride emissions on an annual basis (no more than 12 calendar months following the previous performance test).

(8) [reserved]

<sup>1</sup> **On March 10, 2006, the Department approved changes in the EPA Method 26 testing methodology in an Order. The Order expires March 17, 2011.**

[40 CFR 60.38b and 40 CFR 60.58b(f)]

### Dioxin/Furan

**T.8.** The procedures and test methods specified in paragraphs (1) through (9) shall be used to determine compliance with the limits for dioxin/furan emissions.

(1) The EPA Reference Method 1 shall be used for determining the location and number of sampling points.

(2) The EPA Reference Method 3, 3A, or 3B, as applicable, shall be used for flue gas analysis.

(3) The EPA Reference Method 23 shall be used for determining the dioxin/furan emission concentration.

(i) The minimum sample time shall be 4 hours per test run.

(ii) An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 23 test run for dioxins/furans.

(4) The owner or operator of an affected facility shall conduct an initial performance test for dioxin/furan emissions in accordance with paragraph (3), as required under 40 CFR 60.8.

(5) Following the date that the initial performance test for dioxins/furans is completed or is required to be completed under 40 CFR 60.8, the owner or operator of an affected facility shall conduct performance tests for dioxin/furan emissions in accordance with paragraph (3), according to one of the schedules specified in paragraphs (i) through (iii).

(i) For affected facilities, performance tests shall be conducted on an annual basis (no more than 12 calendar months following the previous performance test.)

(ii) [reserved]

(iii) Where all performance tests over a 2-year period indicate that dioxin/furan emissions are less than or equal to 15 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen for all affected facilities located within a municipal waste combustor plant, the owner or operator of the municipal waste combustor plant may elect to conduct annual performance tests for one affected facility (i.e., unit) per year at the municipal waste combustor plant. At a minimum, a performance test for dioxin/furan emissions shall be conducted annually (no more than 12 months following the previous performance test) for one affected facility at the municipal waste combustor plant. Each year a different affected facility at the

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units -001, -002 and -019

municipal waste combustor plant shall be tested, and the affected facilities at the plant shall be tested in sequence (e.g., unit 1, unit 2, unit 3, as applicable). If each annual performance test continues to indicate a dioxin/furan emission level less than or equal to 15 nanograms per dry standard cubic meter (total mass), the owner or operator may continue conducting a performance test on only one affected facility per year. If any annual performance test indicates a dioxin/furan emission level greater than 15 nanograms per dry standard cubic meter (total mass), performance tests thereafter shall be conducted annually on all affected facilities at the plant until and unless all annual performance tests for all affected facilities at the plant over a 2-year period indicate a dioxin/furan emission level less than or equal to 15 nanograms per dry standard cubic meter (total mass).

(6) The owner or operator of an affected facility that selects to follow the performance testing schedule specified in paragraph (5)(iii) shall follow the procedures specified in 40 CFR 60.59b(g)(4) for reporting the selection of this schedule.

(7) The owner or operator of an affected facility where activated carbon is used to comply with the dioxin/furan emission limits specified in 40 CFR 60.52b(c) or the dioxin/furan emission level specified in paragraph (5)(iii) shall follow the procedures specified in 40 CFR 60.58b(m) for measuring and calculating the carbon usage rate.

(8) The owner or operator of an affected facility may request that compliance with the dioxin/furan emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in 40 CFR 60.58b(b)(6).

(9) As specified under 40 CFR 60.8, all performance tests shall consist of three test runs. The average of the dioxin/furan emission concentrations from the three test runs is used to determine compliance.

[40 CFR 60.38b and 40 CFR 60.58b(g)]

### Nitrogen Oxides

**T.9.** The procedures and test methods specified in paragraphs (1) through (12) shall be used to determine compliance with the nitrogen oxides emission limit for affected facilities under Sec. 60.52b(d).

(1) The EPA Reference Method 19, section 4.1, shall be used for determining the daily arithmetic average nitrogen oxides emission concentration.

(2) The owner or operator of an affected facility may request that compliance with the nitrogen oxides emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in 40 CFR 60.58b(b)(6).

(3) The owner or operator of an affected facility subject to the nitrogen oxides limit shall conduct an initial performance test for nitrogen oxides as required under 40 CFR 60.8. Compliance with the nitrogen oxides emission limit shall be determined by using the continuous emission monitoring system specified in paragraph (4) for measuring nitrogen oxides and calculating a 24-hour daily arithmetic average emission concentration using EPA Reference Method 19, section 4.1.

(4) The owner or operator of an affected facility subject to the nitrogen oxides emission shall install, calibrate, maintain, and operate a continuous emission monitoring system for measuring nitrogen oxides discharged to the atmosphere, and record the output of the system.

(5) Following the date that the initial performance test for nitrogen oxides is completed or is required to be completed under 40 CFR 60.8, compliance with the emission limit for nitrogen oxides shall be determined based on the 24-hour daily arithmetic average of the hourly emission concentrations using continuous emission monitoring system outlet data.

(6) At a minimum, valid continuous emission monitoring system hourly averages shall be obtained as specified in paragraphs (i) and (ii) for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting municipal solid waste.

(i) At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average.

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units -001, -002 and -019

- (ii) Each nitrogen oxides 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) continuous emission monitoring system data.
- (7) The 1-hour arithmetic averages required by paragraph (5) shall be expressed in parts per million by volume (dry basis) and used to calculate the 24-hour daily arithmetic average concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under 40 CFR 60.13(e)(2).
- (8) All valid continuous emission monitoring system data must be used in calculating emission averages even if the minimum continuous emission monitoring system data requirements of paragraph (6) are not met.
- (9) The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous emission monitoring system. The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the municipal waste combustor unit, as specified under 40 CFR 60.8.
- (10) The owner or operator of an affected facility shall operate the continuous emission monitoring system according to Performance Specification 2 in appendix B of 40 CFR 60 and shall follow the procedures and methods specified in paragraphs(i) and (ii).
- (i) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 2 of appendix B of 40 CFR 60, nitrogen oxides and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (A) and (B).
- (A) For nitrogen oxides, EPA Reference Method 7, 7A, 7C, 7D, or 7E shall be used.
- (B) For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, as applicable shall be used.
- (ii) The span value of the continuous emission monitoring system shall be 125 percent of the maximum estimated hourly potential nitrogen oxide emissions of the municipal waste combustor unit.
- (11) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 1 in appendix F of 40 CFR 60.
- (12) When nitrogen oxides continuous emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained using other monitoring systems as approved by the Administrator or EPA Reference Method 19 to provide, as necessary, valid emissions data for a minimum of 75 percent of the hours per day for 90 percent of the days per calendar quarter the unit is operated and combusting municipal solid waste.  
[40 CFR 60.38b and 40 CFR 60.58b(h)]

#### **Fugitive Ash**

**T.10.** The procedures specified in paragraphs (1) through (4) shall be used for determining compliance with the fugitive ash emission limit under 40 CFR 60.55b.

- (1) The EPA Reference Method 22 shall be used for determining compliance with the fugitive ash emission limit under 40 CFR 60.55b. The minimum observation time shall be a series of three 1-hour observations. The observation period shall include times when the facility is transferring ash from the municipal waste combustor unit to the area where ash is stored or loaded into containers or trucks.
- (2) The average duration of visible emissions per hour shall be calculated from the three 1-hour observations. The average shall be used to determine compliance with 40 CFR 60.55b.
- (3) The owner or operator of an affected facility shall conduct an initial performance test for fugitive ash emissions as required under 40 CFR 60.8.
- (4) Following the date that the initial performance test for fugitive ash emissions is completed or is required to be completed under Sec. 60.8 for an affected facility, the owner or operator shall conduct a performance test for fugitive ash emissions on an annual basis (no more than 12 calendar months following the previous performance test).

[40 CFR 60.38b and 40 CFR 60.58b(k)]

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

#### Subsection A. Emissions Units -001, -002 and -019

**T.11. Required Number of Test Runs.** For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.

[Rule 62-297.310(1), F.A.C.]

**T.12. Operating Rate During Testing.** Testing of emissions shall be conducted with the emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.

[Rules 62-297.310(2) & (2)(b), F.A.C.]

**T.13. Calculation of Emission Rate.** The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule.

[Rule 62-297.310(3), F.A.C.]

#### **T.14. Applicable Test Procedures.**

##### **(a) Required Sampling Time.**

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.

2. **Opacity Compliance Tests.** When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

a. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.

b. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.

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

#### Subsection A. Emissions Units -001, -002 and -019

c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.

(c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, attached as part of this permit.

(e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

[Rule 62-297.310(4), F.A.C.]

**T.15. Required Stack Sampling Facilities**. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.

[Rule 62-297.310(6), F.A.C.]

**T.16.1. Frequency of Compliance Tests**. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid and/or solid fuel for more than 400 hours other than during startup.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

a. Did not operate; or

b. In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours.

4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

a. Visible emissions, if there is an applicable standard;

b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and

c. Each NESHAP pollutant, if there is an applicable emission standard.

5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units -001, -002 and -019

9. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) **Special Compliance Tests.** When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

(c) **Waiver of Compliance Test Requirements.** If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.

**T.16.2.** Beryllium and fluoride emissions shall be tested every 5 years. The test method for beryllium is EPA Method 104 and for fluoride is EPA Method 13A or 13B. The test method for VOC is EPA Method 25 or 25A. **In lieu of EPA Method 104, EPA Method 29 shall be used in accordance with the DEP Order approval dated January 25, 2006. This request expires on January 19, 2011**  
[Rule 62-297.310(7), F.A.C.; and, SIP approved]

**T.16.3.** Mercury Test 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.

*{Permitting Note: Condition T.4.(4)(ix), which is based on a federal requirement, requires annual testing.}*  
[Rule 62-296.416(3)(a)3., F.A.C ; Rule 62-296.416(3)(b)2., F.A.C.; and, **Order Granting Variance dated August 25, 1997.**]

### **Compliance With Standards and Maintenance Requirements**

**T.17.** Compliance with standards in 40 CFR 60, other than opacity standards, shall be determined in accordance with performance tests established by 40 CFR 60.8, unless otherwise specified in the applicable standard.  
[40 CFR 60.11(a)]

**T.18.** Compliance with opacity standards in 40 CFR 60 shall be determined by conducting observations in accordance with Reference Method 9 in Appendix A of 40 CFR 60, any alternative method that is approved by the Administrator, or as provided in 40 CFR 60.11(e)(5).  
[40 CFR 60.11(b)]

**T.19.** The owner or operator of an affected facility subject to an opacity standard may submit, for compliance purposes, continuous opacity monitoring system (COMS) data results produced during any performance test required under 40 CFR 60.8 in lieu of EPA Method 9 observation data. If an owner or operator elects to submit COMS data for compliance with the opacity standard, he or she shall notify the Administrator of that decision, in writing, at least 30 days before any performance test required under 40 CFR 60.8 is conducted. Once the owner

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or operator of an affected facility has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent tests required under 40 CFR 60.8 until the owner or operator notifies the Administrator, in writing, to the contrary. For the purpose of determining compliance with the opacity standard during a performance test required under 40 CFR 60.8 using COMS data, the minimum total time of COMS data collection shall be averages of all 6-minute continuous periods within the duration of the mass emission performance test. Results of the COMS opacity determinations shall be submitted along with the results of the performance test required under 60.8. The owner or operator of an affected facility using a COMS for compliance purposes is responsible for demonstrating that the COMS meets the requirements specified in 40 CFR 60.13(c), that the COMS has been properly maintained and operated, and that the resulting data have not been altered in any way. If COMS data results are submitted for compliance with the opacity standard for a period of time during which EPA Method 9 data indicates noncompliance, the EPA Method 9 data will be used to determine opacity compliance.

[40 CFR 60.11(e)(5)]

#### **Monitoring Requirements**

**T.20.** For the purposes of 40 CFR 60.13, all continuous monitoring systems (CMS) required under applicable subparts shall be subject to the provisions of 40 CFR 60.13 upon promulgation of performance specifications for continuous monitoring systems under Appendix B of 40 CFR 60 and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, Appendix F of 40 CFR 60, unless otherwise specified in an applicable subpart or by the Administrator. Appendix F is applicable December 4, 1987.

[40 CFR 60.13(a)]

**T.21.** If the owner or operator of an affected facility elects to submit continuous opacity monitoring system (COMS) data for compliance with the opacity standard as provided under 40 CFR 60.11(e)(5), he shall conduct a performance evaluation of the COMS as specified in Performance Specification 1, Appendix B, of 40 CFR 60 before the performance test required under 40 CFR 60.8 is conducted. Otherwise, the owner or operator of an affected facility shall conduct a performance evaluation of the COMS or continuous emission monitoring system (CEMS) during any performance test required under 40 CFR 60.8 or within 30 days thereafter in accordance with the applicable performance specification in Appendix B of 40 CFR 60. The owner or operator of an affected facility shall conduct COMS or CEMS performance evaluations at such other times as may be required by the Administrator under section 114 of the Act.

(1) The owner or operator of an affected facility using a COMS to determine opacity compliance during any performance test required under 60.8 and as described in 40 CFR 60.11(e)(5) shall furnish the Administrator two or, upon request, more copies of a written report of the results of the COMS performance evaluation described in 40 CFR 60.13(c) at least 10 days before the performance test required under 60.8 is conducted.

[40 CFR 60.13(c)(1)]

**T.22.** (1) Owners and operators of all continuous emission monitoring systems (CEMS) installed in accordance with the provisions of this part shall check the zero (or low-level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span shall, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour span drift exceeds two times the limits of the applicable performance specifications in Appendix B. The system must allow the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified, whenever specified. For continuous monitoring systems measuring opacity of emissions, the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments except that for systems using automatic zero adjustments. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

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(2) Unless otherwise approved by the Administrator, the following procedures shall be followed for continuous monitoring systems measuring opacity of emissions. Minimum procedures shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photo detector assembly.

[40 CFR 60.13(d)(1) and (2)]

**T.23.** Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under 40 CFR 60.13(d), all continuous monitoring systems (CMS) shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(1) All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(2) All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[40 CFR 60.13(e)(1) and (2)]

**T.24.** All continuous monitoring systems (CMS) or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of Appendix B of 40 CFR 60 shall be used.

[40 CFR 60.13(f)]

**T.25.** When the effluents from a single affected facility or two or more affected facilities subject to the same emission standards are combined before being released to the atmosphere, the owner or operator may install applicable continuous monitoring systems (CMS) on each effluent or on the combined effluent. When the affected facilities are not subject to the same emission standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install an applicable continuous monitoring system on each separate effluent unless the installation of fewer systems is approved by the Administrator. When more than one continuous monitoring system is used to measure the emissions from one affected facility (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required from each continuous monitoring system.

[40 CFR 60.13(g)]

**T.26.** Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to 6-minute averages and for continuous monitoring systems other than opacity to 1-hour averages for time periods as defined in 40 CFR 60.2. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. For continuous monitoring systems other than opacity, 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or non reduced form (e.g., ppm pollutant and percent O<sub>2</sub> or ng/J of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in subparts. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).



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[40 CFR 60.13(h)]

#### **T.27. Determination of Process Variables.**

(a) **Required Equipment.** The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) **Accuracy of Equipment.** Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

#### **CEM for Oxygen or Carbon Dioxide**

**C.1.** The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous emission monitoring system and record the output of the system 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 shall comply with the test procedures and test methods specified in paragraphs (1) through (7).

(1) The span value of the oxygen (or carbon dioxide) monitor shall be 25 percent oxygen (or carbon dioxide).

(2) The monitor shall be installed, evaluated, and operated in accordance with 40 CFR 60.13.

(3) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under 40 CFR 60.8.

(4) The monitor shall conform to Performance Specification 3 in appendix B of 40 CFR 60 except for section 2.3 (relative accuracy requirement).

(5) The quality assurance procedures of appendix F of 40 CFR 60 except for section 5.1.1 (relative accuracy test audit) shall apply to the monitor.

(6) If carbon dioxide is selected for use in diluent corrections, the relationship between oxygen and carbon dioxide levels shall be established during the initial performance test according to the procedures and methods specified in paragraphs (i) through (iv). This relationship may be reestablished during performance compliance tests.

(i) The fuel factor equation in Method 3B shall be used to determine the relationship between oxygen and carbon dioxide at a sampling location. Method 3, 3A, or 3B, as applicable, shall be used to determine the oxygen concentration at the same location as the carbon dioxide monitor.

(ii) Samples shall be taken for at least 30 minutes in each hour.

(iii) Each sample shall represent a 1-hour average.

(iv) A minimum of three runs shall be performed.

(7) The relationship between carbon dioxide and oxygen concentrations that is established in accordance with paragraph (6) shall be submitted to the EPA Administrator as part of the initial performance test report and, if applicable, as part of the annual test report if the relationship is reestablished during the annual performance test.

[40 CFR 60.38b and 40 CFR 60.58b(b)]

#### **Compliance Assurance Monitoring (CAM) Requirements**

**CAM.1.** These emissions units are 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 and 62-213.440(1)(b)1.a., F.A.C.]

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#### **Recordkeeping and Reporting Requirements**

**R.1.** The owner or operator subject to the provisions of 40 CFR 60 shall furnish the Administrator written notification as follows:

(4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.

[40 CFR 60.7(a)(4)]

**R.2.** The owner or operator subject to the provisions of 40 CFR 60 shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or, any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 CFR 60.7(b)]

**R.3.** Each owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form [see 40 CFR 60.7(d)] to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or, the CMS data are to be used directly for compliance determination, in which case quarterly reports shall be submitted; or, the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each calendar half (or quarter, as appropriate). Written reports of excess emissions shall include the following information:

(1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

[40 CFR 60.7(c)(1), (2), (3), and (4)]

**R.4.** The summary report form shall contain the information and be in the format shown in Figure 1 (attached) unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.

(1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 40 CFR 60.7(c) need not be submitted unless requested by the Administrator.

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(2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR 60.7(c) shall both be submitted.

[40 CFR 60.7(d)(1) and (2)]

*{See attached Figure 1: Summary Report-Gaseous and Opacity Excess Emission and Monitoring System Performance} (electronic file name: figure1.doc)*

**R.5.** (1) Notwithstanding the frequency of reporting requirements specified in 40 CFR 60.7(c), an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;

(ii) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in 40 CFR 60, Subpart A, and the applicable standard; and

(iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in 40 CFR 60.7(e)(2).

(2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in 40 CFR 60.7(e)(1) and (e)(2).

[40 CFR 60.7(e)(1)]

**R.6.** Any owner or operator subject to the provisions of 40 CFR 60 shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and, all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least **5 (five)** years following the date of such measurements, maintenance, reports, and records.

[40 CFR 60.7(f); and, Rule 62-213.440(1)(b)2.b., F.A.C.]

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**R.7. Notification of Construction or Reconstruction.** The owner or operator of an affected facility with a capacity to combust greater than 250 tons per day shall submit a notification of construction, which includes the information specified in paragraphs (1) through (4).

- (1) Intent to construct.
  - (2) Planned initial startup date.
  - (3) The types of fuels that the owner or operator plans to combust in the affected facility.
  - (4) The municipal waste combustor unit capacity and supporting capacity calculations prepared in accordance with 40 CFR 60.58b(j).
- [40 CFR 60.39b and 40 CFR 60.59b(b)]

**R.8.** The owner or operator of an affected facility subject to the standards under 40 CFR. 60.53b, 60.54b, and 60.55b shall maintain records of the information specified in paragraphs (1) through (14), as applicable, for each affected facility for a period of at least 5 years.

- (1) The calendar date of each record.
- (2) The emission concentrations and parameters measured using continuous monitoring systems as specified under paragraphs (i) and (ii).
  - (i) The measurements specified in paragraphs (A) through (D) shall be recorded and be available for submittal to the Administrator or review onsite by an inspector.
    - (A) All 6-minute average opacity levels as specified under 40 CFR 60.58b(c).
    - (B) All 1-hour average sulfur dioxide emission concentrations as specified under 40 CFR 60.58b(e).
    - (C) All 1-hour average nitrogen oxides emission concentrations as specified under 40 CFR 60.58b(h).
    - (D) All 1-hour average carbon monoxide emission concentrations, municipal waste combustor unit load measurements, and particulate matter control device inlet temperatures as specified under 40 CFR 60.58b(i).
  - (ii) The average concentrations and percent reductions, as applicable, specified in paragraphs (2)(ii)(A) through (2)(ii)(D) shall be computed and recorded, and shall be available for submittal to the Administrator or review on-site by an inspector.
    - (A) All 24-hour daily geometric average sulfur dioxide emission concentrations and all 24-hour daily geometric average percent reductions in sulfur dioxide emissions as specified under 40 CFR 60.58b(e).
    - (B) All 24-hour daily arithmetic average nitrogen oxides emission concentrations as specified under 40 CFR 60.58b(h).
    - (C) All 4-hour block or 24-hour daily arithmetic average carbon monoxide emission concentrations, as applicable, as specified under 40 CFR 60.58b(i).
    - (D) All 4-hour block arithmetic average municipal waste combustor unit load levels and particulate matter control device inlet temperatures as specified under 40 CFR 60.58b(i).
- (3) Identification of the calendar dates when any of the average emission concentrations, percent reductions, or operating parameters recorded under paragraphs (2)(ii)(A) through (2)(ii)(D), or the opacity levels recorded under paragraph (2)(i)(A) are above the applicable limits, with reasons for such exceedances and a description of corrective actions taken.
- (4) For affected facilities that apply activated carbon for mercury or dioxin/furan control, the records specified in paragraphs (i) through (v).
  - (i) The average carbon mass feed rate (in kilograms per hour or pounds per hour) estimated as required under 40 CFR 60.58b(m)(1)(i) during the initial mercury performance test and all subsequent annual performance tests, with supporting calculations.
  - (ii) The average carbon mass feed rate (in kilograms per hour or pounds per hour) estimated as required under 40 CFR 60.58b(m)(1)(ii) during the initial dioxin/furan performance test and all subsequent annual performance tests, with supporting calculations.
  - (iii) The average carbon mass feed rate (in kilograms per hour or pounds per hour) estimated for each hour of operation as required under 40 CFR 60.58b(m)(3)(ii), with supporting calculations.

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- (iv) The total carbon usage for each calendar quarter estimated as specified by 40 CFR 60.58b(m)(3), with supporting calculations.
  - (v) Carbon injection system operating parameter data for the parameter(s) that are the primary indicator(s) of carbon feed rate (e.g., screw feeder speed).
- (5) [Reserved]
- (6) Identification of the calendar dates for which the minimum number of hours of any of the data specified in paragraphs (i) through (v) have not been obtained including reasons for not obtaining sufficient data and a description of corrective actions taken.
- (i) Sulfur dioxide emissions data;
  - (ii) Nitrogen oxides emissions data;
  - (iii) Carbon monoxide emissions data;
  - (iv) Municipal waste combustor unit load data; and
  - (v) Particulate matter control device temperature data.
- (7) Identification of each occurrence that sulfur dioxide emissions data, nitrogen oxides emissions data (large municipal waste combustors only), or operational data (i.e., carbon monoxide emissions, unit load, and particulate matter control device temperature) have been excluded from the calculation of average emission concentrations or parameters, and the reasons for excluding the data.
- (8) The results of daily drift tests and quarterly accuracy determinations for sulfur dioxide, nitrogen oxides, and carbon monoxide continuous emission monitoring systems, as required under appendix F of this part, procedure 1.
- (9) The test reports documenting the results of the initial performance test and all annual performance tests listed in paragraphs (i) and (ii) shall be recorded along with supporting calculations.
- (i) The results of the initial performance test and all annual performance tests conducted to determine compliance with the particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission limits.
  - (ii) For the initial dioxin/furan performance test and all subsequent dioxin/furan performance tests recorded under paragraph (9)(i), the maximum demonstrated municipal waste combustor unit load and maximum demonstrated particulate matter control device temperature (for each particulate matter control device).
- (10) [Reserved]
- (11) The records specified in paragraphs (i) through (iii).
- (i) Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have been provisionally certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program as required by 40 CFR 60.54b(a) including the dates of initial and renewal certifications and documentation of current certification.
  - (ii) Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have been fully certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program as required by 40 CFR 60.54b(b) including the dates of initial and renewal certifications and documentation of current certification.
  - (iii) Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have completed the EPA municipal waste combustor operator training course or a State-approved equivalent course as required by 40 CFR 60.54b(d) including documentation of training completion.
- (12) Records showing the names of persons who have completed a review of the operating manual as required by 40 CFR 60.54b(f) including the date of the initial review and subsequent annual reviews.
- (13) For affected facilities that apply activated carbon for mercury or dioxin/furan control, identification of the calendar dates when the average carbon mass feed rates recorded under (4)(iii) were less than either of the hourly carbon feed rates estimated during performance tests for mercury or dioxin/furan emissions and recorded under paragraphs (4)(i) and (4)(ii), respectively, with reasons for such feed rates and a description of corrective actions taken.

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(14) For affected facilities that apply activated carbon for mercury or dioxin/furan control, identification of the calendar dates when the carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate (e.g., screw feeder speed) recorded under paragraph (4)(v) are below the level(s) estimated during the performance tests as specified in 40 CFR 60.58b(m)(1)(i) and 40 CFR 60.58b(m)(1)(ii), with reasons for such occurrences and a description of corrective actions taken.

[40 CFR 60.39b and 40 CFR 60.59b(d)]

**R.9.** The owner or operator of an affected facility shall submit the information specified in paragraphs (1) through (6) in the initial performance test report.

(1) The initial performance test data as recorded under 40 CFR 60.59b(d)(2)(ii)(A) through (d)(2)(ii)(D) for the initial performance test for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, and particulate matter control device inlet temperature.

(2) The test report documenting the initial performance test recorded under 40 CFR 60.59b(d)(9) for particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emissions.

(3) The performance evaluation of the continuous emission monitoring system using the applicable performance specifications in appendix B of this part.

(4) The maximum demonstrated municipal waste combustor unit load and maximum demonstrated particulate matter control device inlet temperature(s) established during the initial dioxin/furan performance test as recorded under 40 CFR 60.59b(d)(9).

(5) For affected facilities that apply activated carbon injection for mercury control, the owner or operator shall submit the average carbon mass feed rate recorded under 40 CFR 60.59b(d)(4)(i).

(6) For those affected facilities that apply activated carbon injection for dioxin/furan control, the owner or operator shall submit the average carbon mass feed rate recorded under 40 CFR 60.59b(d)(4)(ii).

[40 CFR 60.39b and 40 CFR 60.59b(f)]

**R.10.** Following the first year of municipal combustor operation, the owner or operator of an affected facility shall submit an annual report including the information specified in paragraphs (1) through (4), as applicable, no later than February 1 of each year following the calendar year in which the data were collected (once the unit is subject to permitting requirements under Title V of the Act, the owner or operator of an affected facility must submit these reports semiannually).

(1) A summary of data collected for all pollutants and parameters regulated under this subpart, which includes the information specified in paragraphs (i) through (v).

(i) A list of the particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission levels achieved during the performance tests recorded under 40 CFR 60.59b(d)(9).

(ii) A list of the highest emission level recorded for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, and particulate matter control device inlet temperature based on the data recorded under 40 CFR 60.59b(d)(2)(ii)(A) through (d)(2)(ii)(D).

(iii) List the highest opacity level measured, based on the data recorded under 40 CFR 60.59b(d)(2)(i)(A).

(iv) The total number of days that the minimum number of hours of data for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load, and particulate matter control device temperature data were not obtained based on the data recorded under 40 CFR 60.59b(d)(6).

(v) The total number of hours that data for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load, and particulate matter control device temperature were excluded from the calculation of average emission concentrations or parameters based on the data recorded under 40 CFR 60.59b(d)(7).

(2) The summary of data reported under paragraph (1) shall also provide the types of data specified in paragraphs (1)(i) through (1)(vi) for the calendar year preceding the year being reported, in order to provide the Administrator with a summary of the performance of the affected facility over a 2-year period.

(3) The summary of data including the information specified in paragraphs (1) and (2) shall highlight any emission or parameter levels that did not achieve the emission or parameter limits specified under this subpart.

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(4) A notification of intent to begin the reduced dioxin/furan performance testing schedule specified in 40 CFR 60.58b(g)(5)(iii) during the following calendar year.  
[40 CFR 60.39b and 40 CFR 60.59b(g)]

**R.11.** The owner or operator of an affected facility shall submit a semiannual report that includes the information specified in paragraphs (1) through (5) for any recorded pollutant or parameter that does not comply with the pollutant or parameter limit specified under this subpart, according to the schedule specified under paragraph (6).  
(1) The semiannual report shall include information recorded under 40 CFR 60.59b(d)(3) for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, particulate matter control device inlet temperature, and opacity.

(2) For each date recorded as required by 40 CFR 60.59b(d)(3) and reported as required by paragraph (1), the semiannual report shall include the sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, particulate matter control device inlet temperature, or opacity data, as applicable, recorded under 40 CFR 60.59b(d)(2)(ii)(A) through (d)(2)(ii)(D) and (d)(2)(i)(A), as applicable.

(3) If the test reports recorded under 40 CFR 56.59b(d)(9) document any particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission levels that were above the applicable pollutant limits, the semiannual report shall include a copy of the test report documenting the emission levels and the corrective actions taken.

(4) The semiannual report shall include the information recorded under 40 CFR 60.59b(d)(15) for the carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate.

(5) For each operating date reported as required by paragraph (4), the semiannual report shall include the carbon feed rate data recorded under 40 CFR 60.59b(d)(4)(iii).

(6) Semiannual reports required by this condition shall be submitted according to the schedule specified in paragraphs (i) and (ii).

(i) If the data reported in accordance with paragraphs (1) through (5) were collected during the first calendar half, then the report shall be submitted by August 1 following the first calendar half.

(ii) If the data reported in accordance with paragraphs (1) through (5) were collected during the second calendar half, then the report shall be submitted by February 1 following the second calendar half.

[40 CFR 60.39b and 40 CFR 60.59b(h)]

**R.12.** All reports specified under 40 CFR 60.59b(a), (b), (c), (f), (g), (h), and (i) shall be submitted as a paper copy, postmarked on or before the submittal dates specified under these paragraphs, and maintained onsite as a paper copy for a period of 5 years.

[40 CFR 60.39b and 40 CFR 60.59b(j)]

**R.13.** All records specified under 40 CFR 60.59b(d) and (e) shall be maintained onsite in either paper copy or computer-readable format, unless an alternative format is approved by the Administrator.

[40 CFR 60.39b and 40 CFR 60.59b(k)]

**R.14.** If the owner or operator of an affected facility would prefer a different annual or semiannual date for submitting the periodic reports required by 40 CFR 60.59b(g), (h) and (i), then the dates may be changed by mutual agreement between the owner or operator and the Administrator according to the procedures specified in 40 CFR 60.19(c) of subpart A of this part.

[40 CFR 60.39b and 40 CFR 60.59b(l)]

**R.15.** In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department 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 Department.

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

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

#### Subsection A. Emissions Units -001, -002 and -019

**R.16.** Submit to the Department a written report of emissions in excess of emission limiting for each calendar quarter. The nature and cause of the excess emissions shall be explained. This report does not relieve the owner or operator of the legal liability for violations. All recorded data shall be maintained on file by the Source for a period of **5 (five)** years.

[Rules 62-210.700(6) and 62-213.440, F.A.C.]

**R.17. Test Reports.**

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.

(b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.



## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units -001, -002 and -019

[Rule 62-297.310(8), F.A.C.]

**R.18. Flue Gas Temperature Recording.** The temperature at the exit of the dry scrubber shall not exceed 300°F (4 hour block average). Appropriate instrumentation shall remain installed at the proper location to continuously monitor and record these operating temperatures.

[PSD-FL-108A]

**R.19. Steam Flow Recording.** The lb/hr of steam produced, corrected for pressure and temperature, shall be continuously monitored and recorded on a 4 hour block average. This monitor and data record shall be properly calibrated and maintained at all times.

[PSD-FL-108A]

**R.20. 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. The permittee shall also retain records of all information resulting from monitoring activities and indicating operating parameters as specified in this permit for a minimum of five years from the date of recording.

[PSD-FL-108A and Rule 62-213.440(1)(b)2.b., F.A.C.]

**R.21. Continuous Monitoring Program.** The owner or operator of this source shall install (if not already installed), maintain, operate and submit reports of excessive emissions for the SO<sub>2</sub>, NO<sub>x</sub>, CO, oxygen (or carbon dioxide) and opacity. All averaging periods for emissions monitors shall be based on a midnight to midnight averaging period. The facility shall be operated by personnel properly trained for the operation herein. Continuous monitoring data shall be collected and recorded during periods of startup, shutdown and malfunction. Emissions during periods of startup, shutdown and malfunction shall be excluded from averaging calculations, and from determinations of compliance with emission limits of this permit provided, however, that the duration of startups, shutdowns or malfunctions shall not exceed three hours per occurrence. The start-up period as stated in this condition shall mean the period when the boilers begin continuous burning of RDF, and does not include any warm-up period when only the auxiliary gas burners are utilized, and no RDF is being combusted. Malfunction shall be as defined in Specific Conditions **E.3.a. and b.**

[PSD-FL-108A]

#### **Miscellaneous Requirements.**

**M.1. Definitions.** For the purposes of Rules 62-204.800(7), (8), and (9), F.A.C., the definitions contained in the various provisions of 40 CFR Parts 60 and 61, adopted herein shall apply except that the term "Administrator" when used in 40 CFR Parts 60 and 61, shall mean the Secretary or the Secretary's designee except as noted in 40 CFR 61.157.

[40 CFR 60.2; and, Rules 62-204.800(7)(a), (8)(a)2., and, (9)(a), F.A.C.]

**M.2. Circumvention.** No owner or operator subject to the provisions of 40 CFR 60 shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

[40 CFR 60.12]

**M.3. General Applicability and Definitions.** The Standards of Performance for New Stationary Sources adopted by reference in Rule 62-204.800(7), F.A.C., the Emission Guidelines for Existing Sources adopted by reference in Rule 62-204.800(8), F.A.C., and the National Emissions Standards for Hazardous Air Pollutants adopted by

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

#### Subsection A. Emissions Units -001, -002 and -019

reference in Rule 62-204.800(9), F.A.C., shall be controlling over other standards in the air pollution rules of the Department except that any emissions limiting standard contained in or determined pursuant to the air pollution rules of the Department which is more stringent than one contained in a Standard of Performance, an Emission Guideline, or a National Emission Standard, or which regulates emissions of pollutants or emissions units not regulated by an applicable Standard of Performance, Emission Guideline, or National Emission Standard, shall apply.

[Rules 62-204.800(7)(c), (8)(a)1., and (9)(c), F.A.C.]

**M.4. Acid Rain Program Application.** For any unit which was 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 Program application governing such unit to the Department before the later of January 1, 1998, or March 1 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.

[Chapter 62-214.320(1)(h), F.A.C.]

**M.5. Emission Guidelines, 40 CFR 60 Subpart Cb.** The affected emissions units shall comply with all applicable provisions of the 40 CFR 60, Subpart Cb-Emission Guidelines and Compliance Times for Large Municipal Waste Combustors That Are Constructed on or Before September 20, 1994, which are incorporated within this revision. These emissions units shall comply with Appendix 40 CFR 60, Subpart Cb attached to this permit. {Note: exceptions were made in Florida's adoption of 40 CFR 60, Subpart Cb.}

[Rule 62-204.800(9)(b), F.A.C.]

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

**Subsection D. Emissions Units -010, -011, -012, -014 and -016**

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

E.U. ID No.	Brief Description
	<u>Biosolids Pelletization Facility (BPF)</u>
<u>-010</u>	<u>Sludge Dryer Train #1</u>
<u>-011</u>	<u>Sludge Dryer Train #2</u>
<u>-012</u>	<u>Recycle Material Bin and Pellet Storage Silo for Sludge Dryer Train #1</u>
<u>-014</u>	<u>Recycle Material Bin and Pellet Storage Silo for Sludge Dryer Train #2</u>
<u>-016</u>	<u>Emergency Generator (EPA Tier 3 certified)</u>

Add: "and/or natural gas"

The BPF has two 337.5 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 in a rotary drum dryer to dry sewage sludge, and then screens the dried sludge into marketable fertilizer pellets. ~~Natural gas is used as an alternate fuel.~~ Each dryer has a rated capacity of 40 MMBtu/hr heat input {for either landfill or natural gas} plus an additional 2 MMBtu/hr heat input from each regenerative thermal oxidizer (RTO) for a total rated capacity of 84 MMBtu/hr heat input from the dryers and the RTOs.

and / or

Dry low NOx burners and acid addition in the tray/condenser scrubber shall be used to control NOx emissions from each dryer's exhaust. A tray/condenser scrubber and a venturi scrubber shall be used to control PM emissions from each dryer's exhaust. The BPF shall also use a regenerative thermal oxidizer (RTO) on each dryer exhaust to control VOC emissions with an efficiency of 98%. The RTO also minimizes odors. VOC's 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 27, 2009.

Each biosolids dryer train has the following additional material bin exhaust from one fertilizer pellet storage sources of PM emissions. Each of two recycle material bins is ventilated through a rugitive dust control baghouse and then through a building odor scrubber. Dusty air resulting from silo filling operations is ducted to the recycle bin baghouses, mentioned above. Emissions from the cooling towers and emergency generator are uncontrolled.

Add the following sentence: "Compliance with the visible emissions limit for the recycle bin fabric filter exhaust is determined at the building odor control scrubber exhaust."

**The following specific conditions apply to the emissions units listed above:**

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

approximately

**D.1. Permitted Capacity** The maximum process rate for each dryer train shall be 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) shall be 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:

E.U. ID No.		Landfill or Natural Gas
<u>-010</u>	<u>Sludge Dryer Train #1</u>	<u>42 MMBtu/hour</u>
<u>-011</u>	<u>Sludge Dryer Train #2</u>	<u>42 MMBtu/hour</u>

[Rules 62-4.160(2) and 62-210 (Definitions - Potential to Emit (PTE)), F.A.C.; and, Permit No. 0990234-006-AC/PSD-FL-108F.]

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

#### Subsection D. Emissions Units -010, -011, -012, -014 and -016

and/or

**D.2. Methods of Operation - Fuels.** The dryers shall be fired primarily by landfill gas with natural gas used as an alternate fuel. [Rules 62-4.160(2) and 62-210.200 (PTE), F.A.C.; and, Permit No. 0990234-006-AC/PSD-FL-108F.]

**D.3. Hours of Operation.** These emissions units may operate continuously, i.e., 8,760 hours/year. [Rules 62-4.160(2) and 62-210.200 (PTE), F.A.C.; and, Permit No. 0990234-006-AC/PSD-FL-108F.]

#### **Monitoring of Operations**

**D.4.** 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.]

#### **Air Pollution Control Technologies**

**D.5.** 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.]

~~**D.6.** The owner or operator shall operate and maintain fabric filters on each material recycle bin exhaust and each pellet storage silo exhaust to control PM emissions. [BACT Determination; and, Permit No. 0990234-006-AC/PSD-FL-108F.]~~

Revise with: "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."

#### **Operation and Maintenance**

**D.7.** 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**

**D.8.** Emissions from these emissions units shall not exceed the specific emission limitations and standards in Table AP-1 Summary of Air Pollutants attached to this permit. [BACT Determination; Rule 62-4.070(1)&(3), F.A.C. and Rule 62-212.400(2)(g), F.A.C.; and, Permit No. 0990234-006-AC/PSD-FL-108F.]

**D.9. Unconfined Particulate Matter Emissions:** 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:

- a. Pave all parking lots and permanent drives;
- b. Street sweep paved areas on a regular basis; and
- c. 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.]

#### **40 CFR 61 Subpart E, NESHAP for Mercury**

**D.10. 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

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

**Subsection D. Emissions Units -010, -011, -012, -014 and -016**

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 **Appendix 40 CFR 61 Subpart E - NESHAP for Mercury** included with this permit. [Rule 62-204.800(10)(a) and (b)3., F.A.C.]

**D.11.** Mercury emissions from each 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.} [Rule 62-4.070(1)&(3), F.A.C. and Rule 62-212.400(2)(g), F.A.C.; and, Permit No. 0990234-006-AC/PSD-FL-108F.]

**40 CFR 61 Subpart A - NESHAP General Provisions**

**D.12.** 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 **Appendix 40 CFR 61 Subpart A - General Provisions** included with this permit. [Rule 62-204.800(10)(d), F.A.C.]

**Test Methods and Procedures**

**D.13.** Minor PM Particulate Source Test Methods. The maximum permitted allowable particulate matter emission rate (gr/dscf) from the silos and material recycling bins are stated in Table AP-1. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, and because these sources are equipped with a baghouse, 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 stack test. In accordance with Rule 62-297.620(4), minor particulate 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(4), F.A.C.; and, Permit No. 0990234-006-AC/PSD-FL-108F.]

**Common Conditions**

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

<b>E.U. ID Nos.</b>	<b>Brief Description</b>
	Biosolids Pelletization Facility (BPF)
-010	Sludge Dryer Train #1
-011	Sludge Dryer Train #2
-012	Recycle Material Bin and Pellet Storage Silo for Sludge Dryer Train #1
-014	Recycle Material Bin and Pellet Storage Silo for Sludge Dryer Train #2

**Test Methods and Procedures**

**D.14.** Compliance Testing. This facility shall comply with all applicable requirements of Rule 62-297.310, F.A.C., General Compliance Test Requirements and 40 CFR 60.8. Performance Tests. Compliance with the emission limitations and standards shall be determined by using the following reference methods as described in 40 CFR 60, Appendix A and 40 CFR 61, Appendix B adopted by reference in Chapter 62-204, F.A.C. Tests for

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

**Subsection D. Emissions Units -010, -011, -012, -014 and -016**

each pollutant shall be conducted at such other times as may be required by the Department or the EPA. The test methods are summarized below.

~~Method 5 Determination of Particulate Matter Emissions~~ or Method 7E  
~~Method 6C Determination of Sulfur Dioxide Emissions~~  
~~Method 9 Visual Determination of the Opacity of Emissions~~  
~~Method 7 Determination of Nitrogen Oxides Emissions~~ or Method 25A  
~~Method 10 Determination of Carbon Monoxide Emissions (I)~~  
~~Method 25 Determination of Volatile Organic Compound Emissions (I)~~  
~~Method 101A Determination of Particulate and Gaseous Mercury Emissions from Sewage Sludge Incinerators or Method 105 Determination of Mercury 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.

Note: "(I)" refers to an initial test only. The testing frequency for VOC and CO emissions is an initial demonstration only; no subsequent testing is required for VOC and CO because the lb/hr emission rates stated in Table AP-1 were achieved in the initial test {see Rule 62-297.310(7)(a)4., F.A.C.}. In lieu of frequent testing for VOC and CO emissions, the owner or operator shall follow the Operation and Maintenance Manuals for the dry low NOx burners and the RTOs.

[Chapter 297, F.A.C., Stationary Sources - Emissions Monitoring; and 40 CFR 60 Subpart A, and 40 CFR 61, Subpart A, General Provisions; and, Permit No. 0990234-006-AC/PSD-FL-108F.]

**D.15. Annual Compliance Test.** Unless otherwise specified by this permit, during each federal (October 1st to September 30th), Emissions Unit ID Nos. -010 and -011 (Sludge Dryer Train #1 and #2) shall demonstrate compliance with the emission limitations and standards for VE. [Rule 62-297.310(7)(a)3., F.A.C.]

Can the wording for the Annual Compliance Test be revised so that it is clear that the only annual compliance test required is for VE?

**D.16. 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 and standards for VE, NOx, PM/PM<sub>10</sub>, Hg and SO<sub>2</sub>. [Rule 62-297.310(7)(a)3., F.A.C.]

**D.17. Test Notification.** The owner or operator shall notify the Department, at least 30 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator. [Rule 62-297.310(7)9., F.A.C. and 40 CFR 61.13(c)]

**D.18. Required Stack Sampling Facilities.** When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit. [Rule 62-297.310(6), F.A.C.]

**D.19. Determination of Process Variables.**

(a) **Required Equipment.** The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) **Accuracy of Equipment.** Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value. [Rule 62-297.310(5), F.A.C.]

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

#### Subsection D. Emissions Units -010, -011, -012, -014 and -016

##### D.20. Test Reports.

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.

(b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.

2. The facility at which the emissions unit is located.

3. The owner or operator of the emissions unit.

4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.

5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.

6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.

7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports,

including the distance to any upstream and downstream bends or other flow disturbances.

8. The date, starting time and duration of each sampling run.

9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.

10. The number of points sampled and configuration and location of the sampling plane.

11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.

12. The type, manufacturer and configuration of the sampling equipment used.

13. Data related to the required calibration of the test equipment.

14. Data on the identification, processing and weights of all filters used.

15. Data on the types and amounts of any chemical solutions used.

16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.

17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.

18. All measured and calculated data required to be determined by each applicable test procedure for each run.

19. The detailed calculations for one run that relate the collected data to the calculated emission rate.

20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.

21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct.

When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

Subsection D. Emissions Units -010, -011, -012, -014 and -016

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

<u>E.U. ID</u> <u>Nos.</u>	<u>Brief Description</u>
	Biosolids Pelletization Facility (BPF)
-016	Emergency Generator (EPA Tier 3 certified)

This emergency generator is an engine manufactured in 2007, a Kohler® Model No. 350REOZDD, with approximately 550 brake horsepower (HP), equipped with a 410 kilowatt (kW) generator and with a displacement of 14.0 L (liters). The unit began operation on May 19, 2009. The generator provides emergency standby power. This engine uses low sulfur diesel fuel only. Air pollutant emissions from the engine are uncontrolled. The engine is U.S. EPA Tier 3 certified.

This engine is a 'new' compression ignition (CI) stationary RICE unit under the RICE MACT contained at 40 CFR 63, Subpart ZZZZ. Therefore, this MACT does apply.

*(Permitting note(s): This emissions unit is regulated under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE) also referred to as the "RICE Maximum Achievable Control Technology (MACT)" adopted in Rule 62-204.800(11)(b), F.A.C.*

*This engine is classified as an emergency generator according to 40 CFR 63.6675:*

*"Emergency stationary RICE means any stationary RICE that operates in an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc. Emergency stationary RICE may be operated 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 on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance. Emergency stationary RICE may also operate an additional 50 hours per year in non-emergency situations."*

**These specific conditions apply to the emissions unit listed above:**

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

**D.21. Hours of Operation.** The engine is allowed to operate for no more than 500 hours per year in accordance with Rule 62-210.200, F.A.C. [Rule 62-210.200 (Definitions - Emergency Generator, F.A.C.)]

**D.22. Hours of Operation.** The engine excluding emergency conditions is allowed to operate for no more than 100 hours per year (approximately two hours per week) for routine testing and maintenance purposes. [Rule 62-204.800(11)(b), F.A.C.; and, 40 CFR 63.6675 (Definitions - Emergency Stationary RICE).]



SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

Subsection D. Emissions Units -010, -011, -012, -014 and -016

**Emission Limitations and Standards**

D.23. The engine shall be EPA Tier 3 certified as required by Table 1 of 40 CFR 89.112. The applicable emission standards from Table 1 are:

NOx	Hydrocarbons (HC)	Non-methane HC (NMHC) + NOx	CO	PM
		4.0 grams/kW-hour	3.5 grams/kW-hour	0.2 grams/kW-hour
		{equivalent to 3.6 lbs/hour}	{equivalent to 3.2 lbs/hour}	{equivalent to 0.18 lbs/hour}

[Rule 62-204.800(11) & (8), F.A.C.; and, Table 1 of 40 CFR 89.112]

D.24. The engine shall use low-sulfur diesel fuel, as required by 40 CFR 63, Subpart ZZZZ and 40 CFR 60, Subpart IIII, which reference the requirements in 40 CFR 80.510(a) (40 CFR 60.4207) (adopted by reference in Rule 62-204.800(11) & (8), F.A.C.): “(a) Beginning June 1, 2007. Except as otherwise specifically provided in this subpart, all NRLM (nonroad locomotive or marine) diesel fuel is subject to the following per-gallon standards: (1) Sulfur content, 500 parts per million (ppm) maximum. (2) Cetane index or aromatic content, as follows: (i) A minimum cetane index of 40; or (ii) A maximum aromatic content of 35 volume percent.” [Rule 62-204.800(11) & (8), F.A.C.; and, 40 CFR 60.4207]

**NESHAP 40 CFR 63, Subpart ZZZZ a.k.a. “RICE MACT” & NSPS 40 CFR 60, Subpart IIII a.k.a. “4-I” Requirements**

D.25. The emergency generator, an engine, shall comply with the newly promulgated 40 CFR 63 Subpart ZZZZ, otherwise referred to as the “RICE MACT,” adopted and incorporated by reference in Rules 62-204.800(11) & (8), F.A.C., attached as **Appendix 40 CFR 63, Subpart ZZZZ**, to this permit. Pursuant to 40 CFR 63.6590(c), the unit has elected to comply with the RICE MACT by meeting the requirements of the newly promulgated NSPS 40 CFR 60, Subpart IIII, attached as **Appendix 40 CFR 60, Subpart IIII “set F,”** to this permit. 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)]

**NESHAP 40 CFR 63 Reporting and Recordkeeping Requirements**

D.26. Notification Requirements. In accordance with 40 CFR 63.6590(b) the engine is subject to the notification requirements of this Subpart. New stationary RICE that operate exclusively as emergency units are subject only to initial notification requirements. [Rule 62-204.800(11), F.A.C.; and, 40 CFR 63.6590(b)]

D.27. Recordkeeping Requirement for Applicability Determinations. In accordance with 40 CFR 63.10 (b)(3) the owner or operator must keep a record of each applicability determination on site at the source for a period of five (5) years after the determination, or until the source changes its operations to become an affected source subject to the relevant standards, whichever comes first. [Rule 62-204.800(11), F.A.C.; and, 40 CFR 63.10(b)(3)]

**Table AP-1. Summary of Air Pollutants**

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

Draft/Proposed Permit No.: 0990234-016-AV

General comment on Fuels: Landfill gas and / or Natural gas

Emissions Unit	Pollutant(s)	Fuel(s)	Hours	Emission Limitations and Standards <sup>1</sup>			Equivalent Emissions		Regulatory Citation(s)
				Standard(s)	lb/hr	TPY	lb/hr	TPY	
	NO <sub>x</sub>								
Sludge Dryer Train #1		landfill gas	8760	=	5.60	24.55	5.60	24.55	BACT
Sludge Dryer Train #2		landfill gas	8760	=	5.60	24.55	5.60	24.55	BACT
				{subtotal		49.1		49.1	BACT
Emergency Generator			500	=	=	=	=	3.4	BACT
								52.5	BACT
	PM/PM <sub>10</sub> & Opacity								
Sludge Dryer Train #1		landfill gas	8760	5% opacity; except 20% for up to 3 minutes in 1-hour	2.42	10.6	2.42	10.6	BACT
Sludge Dryer Train #2		landfill gas	8760	5% opacity; except 20% for up to 3 minutes in 1-hour	2.42	10.6	2.42	10.6	BACT
				{subtotal		21.2		21.2	BACT
Emergency Generator			8760	0.697 g/bhp-hr <sup>2</sup>	=	=	=	0.2	BACT
Material Bins & Silos		=	8760	0.010 gr/dscf, 5% opacity	=	=	=	0.6	BACT
Cooling Tower		=	8760	3333 ppm in drift <sup>3</sup>	=	=	0.06	0.274	BACT
								22.3	BACT
	SO <sub>2</sub>								
Sludge Dryer Train #1		landfill gas	8760	190 ppmvd sulfur content <sup>2</sup>	4.45	19.5	4.45	19.5	Rule 62-4.070(1)&(3), F.A.C. and Rule 62-212.400(2)(e), F.A.C.
Sludge Dryer Train #2		landfill gas	8760	190 ppmvd sulfur content <sup>2</sup>	4.45	19.5	4.45	19.5	"
					8.9	39	8.9	39	"
	CO								
Sludge Dryer Train #1		landfill gas	8760	=	3.37	14.75	3.37	14.75	Rule 62-4.070(1)&(3), F.A.C. and Rule 62-212.400(2)(e), F.A.C.
Sludge Dryer Train #2		landfill gas	8760	=	3.37	14.75	3.37	14.75	"
					6.74	29.5	6.74	29.5	"
	VOC								
Sludge Dryer Train #1		landfill gas	8760	=	1	4.4	1	4.4	Rule 62-4.070(1)&(3), F.A.C. and Rule 62-212.400(2)(e), F.A.C.
Sludge Dryer Train #2		landfill gas	8760	=	1	4.4	1	4.4	"
					2	8.8	2	8.8	"
	Hg								
Sludge Dryer Train #1		landfill gas	8760	2.2 E-02 lb/24-hour period			9.22 E-04	4.04 E-03	Applicant Request, Rule 62-4.070(1)&(3), F.A.C. and Rule 62-212.400(2)(e), F.A.C.
Sludge Dryer Train #2		landfill gas	8760	2.2 E-02 lb/24-hour period			9.22 E-04	4.04 E-03	"
							8.08 E-03		"

Replace BACT with Tier 3

Replace BACT with Tier 3

500 hours

Can the Cooling Tower be removed from this table as they have been identified as "insignificant"


Revise footnote to say: "landfill gas and/or natural gas"

<sup>1</sup> standard unless otherwise noted.  
<sup>2</sup> not a standard; a basis for a standard.  
<sup>3</sup> natural gas is used as an alternate fuel.

**From:** Hernandez, Manuel [HernandezMJ@cdm.com]  
**Sent:** Thursday, September 02, 2010 3:29 PM  
**To:** Sheplak, Scott  
**Cc:** Hibbard, Cynthia  
**Subject:** RE: SOLID WASTE AUTHORITY OF PALM BEACH COUNTY/NORTH COUNTY RESOURCE RECOVERY FACILITY; 0990234-016-AV

Good afternoon Scott. We did send the question to NEFCO they confirmed that each dryer system has one filter mounted to the recycle bin that serves the recycle bin and the silo.

Thanks again and let us know if we can be of further assistance. Have a great afternoon and holiday weekend.

 Please consider the environment before printing this email

**Manuel J. Hernandez, P.E.**

**CDM**

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**Project Manager**

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[hernandezmj@cdm.com](mailto:hernandezmj@cdm.com)

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**From:** Sheplak, Scott [mailto:Scott.Sheplak@dep.state.fl.us]  
**Sent:** Thursday, September 02, 2010 3:16 PM  
**To:** Hernandez, Manuel; Hibbard, Cynthia  
**Subject:** SOLID WASTE AUTHORITY OF PALM BEACH COUNTY/NORTH COUNTY RESOURCE RECOVERY FACILITY; 0990234-016-AV

I have everything done and am waiting on your clarification(s).

*The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on [this link to the DEP Customer Survey](#). Thank you in advance for completing the survey.*