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August 24, 2010

Scott M. Sheplak, P.E.
Florida Department of Environmental Protection
Title V Air Permitting Section
Mail Station #5505
2600 Blair Stone Road
Tallahassee, FL 32399

Subject: Request for Information, File No. 1030117-008-AV
Pinellas County Resource Recovery Facility
Facility ID 1030117

Dear Mr. Sheplak:

On behalf of the Pinellas County Department of Solid Waste Operations, CDM has reviewed the Request for Additional Information (RAI) correspondence, dated May 24, 2010 and has prepared responses in accordance with Rule 62-4.055(1) F.A.C. A summary of the responses are discussed below.

1. Renewal Compliance Testing: The emissions units in operation under this permit renewal project, e.g., three municipal solid waste combustors (Unit Nos. 1, 2, and 3) with auxiliary burners, lime storage and processing facilities, activated carbon storage facility, ash storage and processing facilities, metals recovery system, are required to demonstrate compliance. The EPSAP fields related to compliance testing {in the permit renewal application see Section III. Emissions Unit Information, I. Emissions Unit Additional Information, Field 6, Compliance Demonstration Reports/Records Compliance Report} are blank for all emissions units with the exception of the Residue Storage & Processing Building (RSPB).

   a. Where compliance testing is required, was compliance successfully demonstrated by each emissions unit? What were the actual test results? {There is no need to attach the entire test results, you may simply reference the previously submitted test results.} Please prepare a chart showing the actual test results versus the emission standards limitations.

CDM Response to Comment 1

a. Annual stack testing is required for each unit to demonstrate compliance. The most recent compliance tests for Municipal Waste Combustor (MWC) Units 1, 2 and 3 were conducted from April 20-23, 2010 and reported to the Department on June 4, 2010.

The results show particulate, visible emissions, HCl, metals (Cd, Pb, and Hg and F), dioxins and furans were all below the permit requirements. The facility demonstrated compliance during the testing at plus/minus 10% of the maximum permitted steam flow of 244,000 pounds per hour pursuant to permit no. 1030117-006-AV. A summary of the compliance testing results for MWC Units 1, 2, and 3 are shown in the table below.

Parameter	Unit	Title V Limit	MACT Limit	Unit 1 April 2010	Unit 2 April 2010	Unit 3 April 2010	Pass/Fail
Particulate Matter	gr/dscf@7%O_2	0.012	N/A	0.0051	0.00271	0.0109	Pass
	mg/dscm@7%O_2	27	25	12	6	25	Pass
Dioxins/Furans	ng/dscm@7%O_2	30	30	12[1]	2	5[1]	Pass
Beryllium	mg/dscm@7%O_2	$9x10^{-5}$	N/A	$<1x10^{-5}$	$<1x10^{-5}$	$1x10^{-5}$	Pass
Cadmium	mg/dscm@7%O_2	0.040	0.035	$5.33x10^{-4}$	$<4.85x10^{-4}$	$3.19x10^{-3}$	Pass
Lead	mg/dscm@7%O_2	0.44	0.400	$<7.43x10^{-3}$	$<3.26x10^{-3}$	$2.52x10^{-2}$	Pass
Mercury	mg/dscm@7%O_2 (outlet concentration)	0.070	0.050	$<5.01x10^{-3}$	$<5.62x10^{-3}$	$<1.07x10^{-2}$	Pass
	OR						
	Red. Efficiency %	85%	85%	91%	94%	93%	Pass
Hydrogen Chloride	ppmdv@7%O_2 (outlet concentration)	29	29	13	4.8	0.058	Pass
	OR						
	Red. Efficiency %	95%	95%	98%	99%	>99.9%	Pass
Fluoride	lb/hr	8.31	8.31	<0.0722	<0.0649	$2.95x10^{-5}$	Pass
Visible Emissions	% Opacity	5%	5%	0.0%	0.0%	0.0%	Pass
Fugitive Emissions	% period	5%	5%	0.0%	0.0%	0.0%	Pass
Steam Flow	lb/hr	≈241,000					
Maximum Particulate Temperature	°F	≈310°F					
Average Carbon Feed	lb/hr	N/A	N/A	15	15	15	Pass

[1]Dioxin/furans are only required to be tested on one unit each year pursuant to Condition B.51(5)(iii) of Title V permit No. 1030117-006-AV. MWC Units 1 and 3 testing was performed in 2009.

2. New Applicable Requirements - Federal Regulation Amendments, Municipal Waste Combustors (MWC) 40 Code of Federal Regulations (CFR) 60, Subpart Cb:

U.S. EPA recently amended 40 CFR 60, Subparts Eb & Cb. The amendments had been promulgated by U.S. EP A on May 10, 2006, and were adopted by reference into the Florida rules on May 3 I, 2007, at Rule 62-204.S00(S)(b)7., Florida Administrative Code (F.A.C.) and Rule 62-204.S00(9)(b), F.A.C. Note certain exceptions were made in the State of Florida's adoption of 40 CFR 60, Subpart Cb in Rule 62-204.800(9)(b), F.A.C. {excerpts of the rule adoption with the exceptions are enclosed}. Note: The new emission standards/limits took effect Apri1 28, 2009 (compliance deadline) for all of the amendments.

As part of these amendments, the emission standards/limits in particular for lead (Pb), cadmium (Cd), mercury (Hg) and particulate matter (PM) were lowered for 'existing' units (Cb units). The Pb emission limit was changed from: 0.44 milligrams/dscm to 0.40 milligrams/dscm. The Cd emission limit was changed from: 0.04 milligrams/dscm to 0.035 milligrams/dscm. The Hg emission limit was lowered from: 70 micrograms/dscm to 50 micrograms/dscm {note: Florida Rule 62-296.416, F.A.C. limits Hg to 70 micrograms/dscm}. The PM emission limit was changed from: 27 milligrams/dscm to 25 milligrams/dscm. The amendments also changed test scheduling & frequency and provide an array of options for the use of new continuous emissions monitoring system (CEMS) technology for Hg, dioxin, multi-metal & hydrogen chloride (HCl) emissions.

In your requested changes, you requested the May 10, 2006 federal amendment changes to be integrated directly into the respective locations throughout the current valid permit, Permit No. 10301 17-006-AV.

a. Please prepare a chart(s) showing the current emission standards/limits *vs.* the new emission standards/limits under the amendments for Units 1, 2 and 3.

   Please highlight the most stringent emission standard/limit for each pollutant in the chart(s).

b. Where each emission standard/limit has been lowered, please provide the corresponding equivalent lbs/MM Btu/unit, lbs/hour/unit and tons per year/unit (TPY/unit) values. Also, please update the table found in the current permit at the end of the Emission Limitations and Standards location within Section III.B. {see page 20 of the current valid permit, Permit No. 1030117-006-AV}.

c. Please provide a list of the specific applicable requirements that apply to each respective emissions unit from 40 CFR 60, Subparts Eb & Cb.

d. Has compliance with all of the May 10, 2006, federal regulation amendments been demonstrated? Are (or were) any modifications to Units 1, 2 and/or 3 necessary to come into compliance with the federal amendment changes?

Note: An inconsistency in the air pollutant test schedule window has been identified. The language changed by U.S. EPA for air pollutant testing throughout the amendments is highlighted below with the new language underlined.

> *... the owner or operator shall conduct a performance test for [air pollutant] on a calendar year basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test; and must complete five performance tests in each 5-year calendar period)....*

U.S. EPA did not make the change to the test schedule window for HCl and fugitive ash emissions in the federal regulations.

On January 22, 2009, the Department received an e-mail from U.S. EPA confirming this as an error in the CFR. In the federal register, U.S. EPA clearly intended to make the testing schedule change apply to all air pollutants (see the May 10, 2006 federal register, page number 27326). U.S. EPA plans to correct this error as soon as possible. Until this error is corrected in the federal regulation, the testing schedule for fugitive ash and HCl emissions will be kept intact.

CDM Response to Comment 2

a. A summary of the current emissions standard limits vs. the new MACT emission standards for MWC Units 1, 2, and 3 are shown in the table below. The most stringent standards are the new MACT standards as shown highlighted below.

Pollutant	Title V	New MACT
Particulate Matter (PM/PM_{10})	27 mg/dscm	25 mg/dscm
Cadmium (Cd)	0.04 mg/dscm	0.035 mg/dscm
Mercury (Hg)	0.07 mg/dscm	0.05 mg/dscm
Lead (Pb)	0.44 mg/dscm	0.40 mg/dscm

b. The equivalent emissions included in condition B.34 of the current permit 1030117-006-AV were recalculated for particulate, cadmium, mercury, and lead based on the new standards set forth in the May 10, 2006 Federal amendments using the

maximum flow rate of 139,792 dscfm @ 7% O_2 and a maximum heat input of 458 MMBtu/hr [PA 78-11(B, C) & PA 83-18 (B, C)]. Please note these equivalent emissions (pound per hour, tons per year and pound per million Btu) are listed for information purposes only to indicate the potential to emit and are not emission compliance standards. A summary of the revised calculations are shown in the table below.

Pollutant	lbs/MMBtu/unit	lbs/hr/unit	tons/year/unit
Particulate Matter (PM/PM_{10})	0.0291	13.3	58.4
Cadmium (Cd)	4.01×10^{-5}	0.0180	0.0805
Mercury (Hg)	8.17×10^{-5}	0.037	0.164
Lead (Pb)	4.57×10^{-4}	0.210	0.916
Sulfur Dioxide (SO_2)	0.372	170	745
Hydrogen Chloride (HCl)	0.174	79.8	349.5
Dioxins/Furans	3.44×10^{-8}	1.60×10^{-5}	6.90×10^{-5}
Nitrogen Oxides (NO_X)	0.450	205	899
Carbon Monoxide (CO)	0.133	61.0	267

c. **These emission units are subject to the requirements of the Title V permit no. 1030117-006-AV. The emission units are subject to additional requirements from May 10, 2006 Federal Amendments. These requirement were included in a redlined copy of the Title V permit no. 1030117-006-AV and submitted in the ESAP electronic permit, dated April 1, 2010.**

d. **The compliance testing summary table provided in RAI response No. 1 shows particulate matter, Cd, Pb, and Hg are in compliance with the new MACT standards.**

3. Capital Replacement Project and Facility Improvement Projects: Specific condition B.106. of Permit No. 1030117-006-AV cites a Capital Replacement Project. In the application comment field for this permit renewal project, the purpose of application is stated as "To incorporate facility changes and to update the permit." In the proposed changes document (referred to as the "redline document") it appears the applicable requirements from Permit No. 1030117-007-AC (PSD-FL-OIIC & PSD-FL-098C) which has an expiration date of April 30, 2011 have been integrated directly into the respective locations throughout an electronic version of the current valid permit, Permit No. 1030117-006-AV.

   The project authorized under Permit No. 1030117-007 -AC consisted of the replacement of furnace boiler tubes, air preheaters and grate components that had been in service for approximately 20-24 years. This project also had included the improvements to the

facility's air pollution control system, replacement of the ash processing and storage building as well as other minor equipment.

a. What is/was the primary difference(s) between the Capital Replacement Project and the Facility Improvement Projects?

b. Are you specifically requesting that the terms and conditions from Permit No. 1030117-007-AC (PSD-FL-O 11 C & PSD-FL-098C) for the Facility Improvement Projects to be included as part of this permit renewal project?

1. Was compliance with all of the terms and conditions of Permit No.1 030117-007-AC demonstrated {it is unclear from the permit renewal application}? If yes, what were the dates of completion of each unit's refurbishment?

2. Is there any unfinished work? Any unfinished work needs to be identified in a compliance plan with each specific unfinished work activity identified along with a timeline to complete the unfinished work.

3. Is the stack information, e,g., stack gas volumetric flow rate, stack gas exit temperature, etc., applicable to each of the three municipal solid waste combustors (Unit Nos. 1,2, and 3) provided in the EPSAP permit application current?

<u>CDM Response to Comment 3</u>

a. **The Capital Replacement Projects consisted of improvements throughout the facility including refurbishment of the boilers, cranes, cooling towers, feed water pumps, upgrades of the instrumentation and controls, replacement of the water treatment system and tipping floor improvements. The boiler refurbishments for MWC Units 1, 2 and 3 consisted of in-kind replacements of the boiler tubes, headers, attachment and trims parts from the furnace gas exit to the economizer exit and the boiler gas side cleaning equipment consisting of soot blowers and rappers. The request for approval of the Capital Replacement Projects was submitted to the Department in a correspondence, dated August 30, 2000.**

The Facility Improvement Projects consisted of in-kind replacement of existing equipment and systems. The improvements included the replacement of the boiler tubes in the furnace section of the boilers, various components of the stoker/grate system for each boiler, air pre-heaters for each boiler, and ash riddling system; replacement of the existing Ash Processing and Storage Building with the new Residue Storage and Processing Building; and improvements to the air pollution

control systems. The improvements commenced construction in January 2007 and were completed in March 2010.

b.1 The County is requesting that the post-construction monitoring requirements of permit no. 1030117-007-AC be incorporated into the current permit renewal.

b.2 The Facility Improvement Projects are considered final and complete. Construction was completed for Boiler 1 on November 29, 2009, Boiler 2 on March 25, 2010, and Boiler 3 on April 14, 2008. A construction completion report was submitted to the Department on June 30, 2010, including dates of construction completion and results of compliance testing. All units demonstrated compliance during the post-construction compliance testing. Dioxin/furans were not included in the 2010 compliance testing for Boiler 1, as per the MACT standards dioxin/furan testing is required on only one unit per year. However, based on discussions with Max Grondahl in the Southwest District Office, this testing is required for demonstration of post-construction compliance and is tentatively scheduled to be performed on September 21, 2010.

b.3 The stack information such as stack gas volumetric flow rate, stack gas exit temperature, etc., for each MWC Units 1, 2 and 3 are included in the current electronic permit application represent current data.

4. New Applicable Requirements - Engines: Permit No. 1030117-006-AV, was effective on November 15, 2005, 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 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), F.A.C.

      The Appendix U, List of Unregulated Emissions Units and/or Activities attached to Permit No. 1030117-006-AV, contains the following emissions units by emissions unit

identification number (E.U. ID No,): -011, Main Lift Station Emergency Fire Pump; -012, RRF Emergency Fire Pump; and, -014, Portable Tub Grinder Diesel Engine.

The existing and proposed additions cited in the permit renewal application to Appendix I, List of Insignificant Emissions Units and/or Activities lists several emergency generators, items #42 - 47.

Are any of these engines 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), F.A.C.

This facility is a major source of HAP. This new MACT may therefore apply. Are any of the previously mentioned engines above 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.

These new federal regulations along with fact sheets are posted on the following U.S. EPA web site: http://www.epa.gov/ttn/atw/combust/list.html.

CDM Response to Comment 4

a. **Appendix I-1 was updated to reflect existing equipment on-site that are considered insignificant emission sources. The emergency generators (No. 42,**

44, and 47) were installed prior to 2007 as existing and original equipment. These Internal Compression Engines are subject to best management practices in Table 2c, 40 CFR Part 63.6602 and annual reporting requirements in 40 CFR Part 63.6650. The portable generators for mosquito control are used off-site and are exempt from the standards.

Kirby Grinding is under contact with Veolia ES to mulch yard waste for Pinellas County. Kirby Grinding currently uses one (1) tub grinder (Morbark, Engine No. 3412) for their mulching operations. This tub grinder is considered the "primary" unit and typically operates 1 to 2 days per week depending on the amount of yard waste received. Another tub grinder is stored on-site and is used as a backup to the primary tub grinder. A third tub grinder is stored off-site and it is not currently used at the facility. These tub grinder engines are subject to general provisions of 40 CFR Part 63.66

No.	Description	Location	Size (HP)	Model/SN	Year	Rule Applicability
42	Existing Emergency Generator	Pond A - Chlorine Treatment	166	John Deere, Model 6059T	<1998	Part 63.6602 Table 2c Part 63.6625(e),(f),(h) Part 63.6650 except (g)
43	Existing Emergency Generator	Scale House	190	Caterpillar, Model #C6.6	2009	Part 60.4202, Table 1 Standards; (Tier 3 Certified)
44	Existing Portable Emergency Generator	Maintenance Building	107	Kohler Power System 80, Model #GN 80919	<2005	Part 63.6602 Table 2c Part 63.6625(e),(f),(h) Part 63.6650 except (g)
45	2 Existing Portable Emergency Generators	Mosquito Control	36/ 66	N/A	N/A	used offsite – not applicable
46	Existing Emergency Generator	Administration Building	402	Caterpillar, Model #C9	2009	Part 60.4202, Table 1 Standards; (Tier 3 Certified)
47	Existing Emergency Generator	Main Lift Station	252	Cummins, Model DGFA5768846	2006	Part 63.6602 Table 2c Part 63.6625(e),(f),(h) Part 63.6650 except (g); Tier 1 certified
EU 012	Existing Emergency Fire Pump Engine	Fire Pump	207	Clark, Model JU6H-UFM0	2009	Part 60.4205, Table 4 Standards; (Tier 3 Certified)

EU 014	Diesel Tub Grinder (primary)	Yard Waste Facility	860	Morbark, Engine Model #3412	2000	Part 63.66, Engines > 500 HP.
EU 014	Diesel Tub Grinder (secondary)	Yard Waste Facility	750	Morbark, Engine Model #3412	1997	Part 63.66, Engines > 500 HP.

b. Appendix I-1 was updated to reflect existing equipment on-site that are considered insignificant emission sources. The emergency generators (Items 43 and 46 in RAI Response No. 4.A) were installed after 2007 as new and original equipment. These Internal Compression Engines are subject to standards in Table 1 in 40 CFR Part 60.4202 and must be certified. These engines are Tier 3 certified by the manufacturer.

The emergency fire pump engine was installed after 2007 and is new and original equipment. These Internal Compression Engines are subject to standards in Table 1 in 40 CFR Part 60.4202 and must be certified by the manufacturer. This engine is Tier 3 certified by the manufacturer.

5. Risk Management Plan (RMP): In the EPSAP permit application submitted, the RMP field is blank {in the permit renewal application see Section II. Facility Information, C. Facility Additional Information, Additional Requirements for Title V Air Operation Permit Applications, Field 5. Verification of Risk Management Plan Submission to EPA: (required for renewal applications)}. Has an RMP been submitted? Was it required to be updated?

CDM Response to Comment 5
A Risk Management Plan was revised and submitted to the EPA in April 2009. The RMP did not need to be revised for this Title V application.

6. Ambient Air Monitors: Why are you requesting the removal of specific condition B.1 04., which is related to ambient air monitors, from the current valid permit, Permit No. 1030117-006-AV? The regulatory citations (origins) for this condition indicate that this applicable requirement is from power plant siting certifications, PA 78-11 (B) and 83-18(B).

CDM Response to Comment 6
The ambient air monitors were required in the original power plant siting certifications, PA 78-11 and 83-18, but that requirement was later removed. Condition XIV.A.1 of the October 10, 1995 amendment states that "The emissions limitations and other requirements contained in this subsection shall apply until the electrostatic precipitators in the Resource Recovery Facility are replaced with new air pollution

control (APC) systems and compliance testing is completed. Thereafter, the emissions limitations and other requirements contained in subsection 2, below, shall apply." The requirement for ambient air monitors is included under subsection 1 (XIV.A.1.h.(4)). Subsection 2 does not contain any requirements for ambient air monitoring. Therefore, the ambient monitoring requirements in Condition B.104 should be removed from the Title V permit.

The October 1995 amendment also changed the criteria for determining compliance with the MSW load level from using tonnage throughput to using steam flow. The requirement to use tonnage to demonstrate compliance prior to the retrofit was included in subsection XIV.a.d. The post-retrofit requirement, as provided in XIV.A.2.e.(1), states "(1) MWC Load Level. Compliance with MWC load level requirements shall be determined by a steam flow meter using the American Society of Mechanical Engineers (ASME) Power Test Code Method 4.1. Steam flow shall be calculated in four-hour block arithmetic averages. The design, construction, installation, and calibration of the steam flow meter shall be based on ASME Test code 19.5 The maximum demonstrated MWC unit load shall be determined during the initial compliance test for dioxins/furans and each subsequent compliance test, during which compliance with dioxin/furan limits are achieved. "

7. Cooling Towers: In Appendix U-1, List of Unregulated Emissions Units and/or Activities, "cooling tower" is listed. Does the cooling tower use chromium-based water treatment chemicals?

<u>CDM Response to Comment 7</u>
The cooling tower utilizes a corrosion inhibitors (Nalco C-9 and Nalco Sure Cool 1336), dispersing agents (Nalco 3DT118) and antifoaming agent (Nalco 7465) to treat the cooling water. The documentation provided by the manufacturer does not list any chromium based compounds in the aforementioned materials.

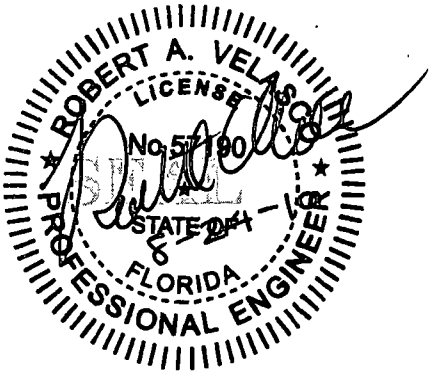
It is requested that the department approve the Title V permit application based on the addition information provided herein. Please contact me (813) 281-2900, if you have any questions.

Sincerely,

Wm. R. Crellin Jr., PE

William Crellin Jr., P.E.
Project Manager
Camp, Dresser & McKee

cc: FDEP
Kelsi Oswald – Pinellas County
Becky Macionski, P.E. – Veolia ES (no attachments)
Dan Strobridge QEP – CDM (no attachments)
Robert Velasco P.E. – CDM
File



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The seal certifies the engineering information included herein provides reasonable assurance of meeting the applicable requirements of the Title V air permit renewal application. The seal does not certify or attest to the accuracy of work prepared by others who are qualified to perform the work. The information provided herein is believed to correct to the best of the Engineer's knowledge.