**Pasco County**
**Pasco County Resource Recovery Facility**
**Title V Air Operation Permit Renewal**
**Proposed Permit No. 1010056-008-AV**

## APPLICANT

The applicant for this project is Pasco County, Pasco County Resource Recovery Facility. The applicant's responsible official and mailing address are: Mr. John Power, Solid Waste Manager, Pasco County, 14230 Hays Road, Spring Hill, Florida 34610.

## FACILITY DESCRIPTION

The facility is owned by Pasco County and is currently operated by the Covanta Energy Group, Inc. This existing facility is located in Pasco County at 14230 Hays Road, Spring Hill.

The Pasco County Resource Recovery Facility consists of three municipal waste combustors (MWC) and ancillary equipment. Each unit has a design rated capacity of 350 tons per day of municipal solid waste. The three units produce sufficient steam to generate approximately 31 megawatts of electricity. Additional emission units at the facility include an activated carbon storage silo, fugitive landfill gas emissions, an ash building and handling system and emergency equipment.

The facility commenced operation in May 1991. Emissions from each unit are controlled by: a spray dryer absorber for acid gases such as sulfur dioxide ($SO_2$) and hydrogen chloride (HCl); a fabric filter for particulate matter (PM); a selective non-catalytic reduction (SNCR) system for nitrogen oxides ($NO_X$); and an activated carbon injector system for mercury (Hg), other metal hazardous air pollutants (HAP) and dioxin/furan. The facility is equipped with continuous emission monitoring system (CEMS) for carbon monoxide (CO), $SO_2$ and $NO_X$ and a continuous opacity monitoring system (COMS) for visible emissions.

## PROJECT DESCRIPTION

The purpose of this permitting project is to renew the Title V air operation permit for the above referenced facility. The key differences compared with the previous Title V air operation permit are:

- Inclusion of new and existing reciprocating internal combustion engines (RICE);
- Incorporation of concurrently issued air construction Permit No. 1010056-007 (PSD-FL-127B) that is an update of the previous construction permits for the three MWC to insure consistency with Department Rule 62-204.800(9)(b), Florida Administrative Code (F.A.C.) - Municipal Waste Combustors (the MWC rule); and
- Inclusion of all other applicable requirements of the MWC rule since it was updated in accordance with 40 Code of Federal Regulation (CFR) Part 60, Subpart Cb, "Emission Guidelines and Compliance Times for Large Municipal Waste Combustors that are constructed on or before September 20, 1994" (as amended May 10, 2006).

## PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for a Title V Air Operation Permit Renewal received on August 4, 2011.
Additional Information Response dated September 15, 2011**,** received on December 7, 2011.
Draft permit posted on web site on February 29, 2012.
Public Notice published on March 8, 2012.

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## PRIMARY REGULATORY REQUIREMENTS

Title III: This facility is a major source of HAP, based on the Title V air operation permit renewal application received on August 4, 2011 (e.g. potential to emit 10 tons/year of HCl).

Title V: This facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.

PSD: This facility is a Prevention of Significant Deterioration (PSD) major source of air pollution in accordance with Rule 62-212.400, F.A.C.

Department Municipal Waste Combustor Rule: Department Rule 62-204.800(9)(b), F.A.C., Municipal Waste Combustors, applies to this facility. The MWC rule is based on 40 CFR 60, Subpart Cb - Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors that are Constructed on or before September 20, 1994.

The Department's MWC rule (effective May 31, 2007) is listed in 40 CFR 62, Approval and Promulgation of State Plans for Designated Facilities and Pollutants, Subpart K – Florida at Section 40 CFR 62.2355 (adopted by EPA December 30, 2010, amended February 9, 2012).

Compliance Assurance Monitoring (CAM): The facility operates units subject to the General Applicability provisions of 40 CFR 64, CAM, because the three MWC are required to obtain a facility Title V air operation permit and:

1. Are subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph 40 CFR 64.2(b)(1);
2. Use control devices to achieve compliance with any such emission limitation or standard; and
3. Have potential pre-control (i.e. uncontrolled) device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons/year, required for a source to be classified as a major source.

## CONTINUOUS ASSURANCE MONITORING ANALYSIS

The requirements of updated Permit No. 1010056-007 (PSD-FL-127B) issued concurrently with this Title V air operation permit are more stringent than those contained in the original Permit No. PSD-FL-127. The emission standards in 1010056-007 (PSD-FL-127B) are listed in the table below.

| Pollutant | Emission Standard [1] | Compliance Method | Basis |
|---|---|---|---|
| $NO_X$ | 205 ppmvd @ 7% $O_2$ | 24-hr daily arithmetic block, CEMS | BACT |
| CO | 100 ppmvd @ 7% $O_2$ | 4-hr block, CEMS | BACT |
| $SO_2$ | 29 ppmvd @ 7% $O_2$ | 24 hour daily geometric mean, CEMS | BACT |
| PM | 25 mg/dscm @ 7% $O_2$ | Annual Stack Test | BACT |
| Hg | 50 µg/dscm @ 7% $O_2$ | Annual Stack Test | Avoid PSD |
| Opacity | 15% [3] | 6-minute average except for one 6-minute period per hour not greater than 20%, COMS | BACT |

1. The emission standards pursuant to the Department's Rule 62-204.800(9)(b), F.A.C., (New Source Performance Standards (NSPS), Subpart Cb) also apply.
2. ppmvd @ 7 % $O_2$ = part per million by volume, dry at 7 percent oxygen; µg/dscm = micrograms per dry standard cubic meter; mg/dscm = milligrams per dry standard cubic meter.
3. A separate opacity standard of 10% and annual test applies pursuant to NSPS, Subpart Cb.

In accordance with 40 CFR 64.3(d), a CAM plan is not required for $NO_X$, CO or $SO_2$ (if for no other reason than) because the three MWC must demonstrate continuous compliance using CEMS.

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The PM and Hg emission standards in Permit No. 1010056-007 (PSD-FL-127B) are identical to those required by the Department's MWC rule. According to 40 CFR 64.2(b)(1), the requirements of CAM do not apply to the limitations or standards proposed by EPA after November 15, 1990, pursuant to Section 111 or 112 of the Clean Air Act (CAA).

The 1995 and 2006 versions of 40 CFR 60, Subpart Cb (post November 15, 1990), upon which the Department's MWC rule is based, were clearly proposed as limitations or standards pursuant to Section 111(d) of the CAA in accordance with Section 129 of CAA. The Department's MWC rule (latest version effective May 31, 2007) includes the same limitations (equal to the federal emissions guidelines) and compliance methods proposed in 40 CFR 60, Subpart Cb. The Department's MWC rule was approved by EPA and is listed at 40 CFR 62.2355 (as amended February 9, 2012). The Department concludes that CAM plans are not required for Hg or PM on the basis of 40 CFR 64.2(b)(1).

Arguably, because the Department's rule is a State Implementation Plan (SIP) limit and is incorporated into the air construction permit (a SIP permit), CAM plans are not automatically ruled out. Based on an inquiry made to EPA by the Integrated Waste Services Association in 1999 on " *whether you can expect the same (NSPS, Subpart Cb or Eb) monitoring to be adequate to show compliance with similar existing emissions limitations and can avoid having to provide additional monitoring to satisfy periodic monitoring or CAM requirements"*. EPA responded:

*"We expect that in most cases monitoring that complies with the requirements in Subpart Eb will also provide the assurance of compliance required by part 70 or part 64 for other emissions limitations or standards for the same or similar pollutants. On the other hand, it is impossible for us to state definitively that monitoring that complies with Subpart Eb requirements will provide adequate assurance of compliance for all other emissions limitations or standards."* [1]

The Department's MWC rule is exactly as stringent as the facility SIP emissions limitations and the 2006 version of 40 CFR 60, Subpart Cb. The Department concludes that CAM requirements for the SIP permit-based emission limitations and standards is satisfied by adherence to the Department's MWC rule that adopts or references the CEMS, compliance and performance testing requirements contained in NSPS, Subpart Cb and NSPS, Subpart Eb (as referenced by NSPS, Subpart Cb).[1]

**PROJECT REVIEW**

The following permitting documents were changed as a result of this Title V air operation permit renewal and are included in this package: Permit; Appendix NSPS, Subpart A - General Provisions; Appendix NSPS, Subpart Cb (version dated 03/24/2010); Appendix NSPS, Subpart Eb (version dated 04/21/2008); and the following referenced attachments: Table H, Permit History; Table 1, Summary of Air Pollutant Standards and Terms; and Table 2, Summary of Compliance Requirements.

The facility has an existing Onan diesel-fueled emergency generator to operate the scale house. It is rated at 20 horsepower (hp) and is designated as Emissions Unit (EU) 009. The facility includes a well water backup diesel generator (John Deere) rated at 134 hp and designated as EU 010. There is one Caterpillar emergency diesel-fueled fire pump engine rated at 287 hp (EU 011). EU 009, 010 and 011 are regulated under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary RICE adopted in Rule 62-204.800(11)(b), F.A.C.

Fluoride, beryllium and volatile organic compound emissions limit and testing requirements for MWC Units 1 - 3 are no longer included in the Title V air operation permit because they were removed as applicable air construction permit limits. Refer to the rationale given in the Technical Evaluation and Preliminary Determination accompanying the draft air construction permit issued concurrently with this draft Title V air operation permit.

[1] Letter. Hitte, S. of EPA to Zannes, M. of the Integrated Waste Services Association. Applicability of Maximum Achievable Control Technology Standard Monitoring to Satisfy Title V Periodic or Compliance Assurance Monitoring. July 7, 1999. www.epa.gov/region7/air/title5/t5memos/zannes.pdf

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Similarly, waste throughput and heat input limits were removed and replaced by a single maximum steam flow limitation of 100,500 pounds/hour for each unit on a 4-hour basis as discussed in the technical evaluation. This limit shall not be exceeded, notwithstanding the maximum demonstrated loads achieved during the required dioxin/furan tests.

## EMISSION LIMITATIONS AND STANDARDS

The key emissions standards applicable to the three MWC are listed in the following table:

| Pollutant | Emission Standard [1] | Compliance Method | Basis |
|---|---|---|---|
| $NO_X$ | 205 ppmvd @ 7% $O_2$ | 24-hr daily arithmetic block, CEMS | Department MWC Rule and BACT |
| CO | 100 ppmvd @ 7% $O_2$ | 4-hr block, CEMS | Department MWC Rule and BACT |
| $SO_2$ | 29 ppmvd @ 7% $O_2$ | 24 hour daily geometric mean, CEMS | Department MWC Rule and BACT |
| PM | 25 mg/dscm @ 7% $O_2$ | Annual Stack Test | Department MWC Rule and BACT |
| Hg | 50 µg/dscm @ 7% $O_2$ | Annual Stack Test | Department MWC Rule and PSD avoidance |
| HCl | 29 ppmvd @ 7% $O_2$ or 95% reduction [2] | Annual Stack Test | Department MWC Rule |
| Lead | 400 µg/dscm, @ 7% $O_2$ | Annual Stack Test | Department MWC Rule |
| Cadmium | 35 µg/dscm | Annual Stack Test | Department MWC Rule |
| Dioxin/furan | 30 ng/dscm @ 7% $O_2$ | Annual Stack Test | Department MWC Rule |
| Opacity | 15% | 6-minute average except for one 6-minute period per hour not greater than 20%, COMS | BACT |
| | 10% | Annual Stack Test | Department MWC Rule |

1. ppmvd @ 7% $O_2$ = part per million by volume, dry at percent (%) Oxygen ($O_2$); µg/dscm = micrograms per dry standard cubic meter; mg/dscm = milligrams/dscm; ng/dscm = nanograms/dscm (total mass basis).
2. Whichever standard is less stringent

The requirements of the most recent version of the Department's MWC rule (based on 40 CFR 60, Subpart Cb) are included in Appendix NSPS, Subpart Cb of the Title V air operation permit.

## ADDITIONAL REQUEST REGARDING TESTING FREQUENCY

The applicant requested that the annual performance testing requirements for HCl and fugitive ash be amended from an annual basis (no more than 12 calendar months following the previous performance test). The applicant requests requirement that tests shall be conducted no less than 9 calendar months and no more than 15 calendar months following the previous performance test and completion of five performance tests in each 5-year calendar period.

On January 22, 2009, the Department received an e-mail from U.S. EPA confirming an error in the Code of Federal Regulations regarding the testing schedule for fugitive ash and HCl emissions. In the federal register U.S. EPA clearly intended to make the testing schedule change apply to all air pollutants. In the

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e-mail U.S. EPA confirmed the error in the CFR and they plan to correct the error as soon as possible. Until the error is corrected in the federal regulation, the testing schedule for fugitive ash and HCl emissions is kept intact.

## CONCLUSION

This project renews Title V air operation Permit No. 1010056-005-AV, which was effective March 16, 2007. This Title V air operation permit is issued under the provisions of Chapter 403, F.S., and Chapters 62-4, 62-210, 62-213 and 214, F.A.C. In accordance with the terms and conditions of this permit, the above named permittee is hereby authorized to operate the facility as shown on the application and approved drawings, plans, and other documents on file with the permitting authority.

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