Hillsborough County, Public Works Department
Hillsborough County Resource Recovery

Title V Air Operation Permit Revision
Permit No. 0570261-017-AV

APPLICANT

The applicant for this project is Hillsborough County, Public Works Department. The applicant's responsible official and mailing address are: Kimberly A Byer, Division Manager, Solid Waste Management Division, Public Works Department, Hillsborough County Resource Recovery Facility, 332 North Falkenburg Road, Tampa, Florida 33619.

FACILITY DESCRIPTION

The applicant operates the existing Hillsborough County Resource Recovery Facility, which is located in Hillsborough County at 350 North Falkenburg Road in Tampa, Florida 33619.

This existing facility consists of: four municipal waste combustors (MWC's) (Units 1, 2, 3 and 4) with auxiliary burners; lime storage and processing facilities; ash storage and processing facilities; cooling towers; a wastewater treatment plant and, ancillary support equipment. The facility is owned by Hillsborough County and is currently operated by Covanta Hillsborough, Inc., a subsidiary of Covanta Energy Corporation.

The total capacity of the Hillsborough County RRF is approximately 1,800 tons/day of municipal solid waste (MSW). The gross nominal electric generating capacity of the facility is 47 megawatts (MW). Steam production from Units 1, 2 and 3 is limited to 102,000 pounds of per hour per unit (lb/hour/unit) and 200,000 lb/hour from Unit 4.

The facility is equipped with continuous emission monitoring systems (CEMS) for carbon monoxide (CO), sulfur dioxide (SO_2) and nitrogen oxides (NO_X) and continuous opacity monitoring systems (COMS) for visible emissions (VE). The four units exhaust to a common stack consisting of four separate flues.

The facility is owned by Hillsborough County and is currently operated by Covanta Hillsborough, Inc. a subsidiary of Covanta Energy Corporation.

This facility also includes miscellaneous unregulated/insignificant emissions units and/or activities.

PROJECT DESCRIPTION

The purpose of this permitting project is to revise the existing Title V air operation permit No. 0570261-014-AV to incorporate the applicable requirements from air construction permit No.0570261-016-AC (PSD-FL-121E and PSD-FL-369D).

The air construction permit authorized removal of the design capacity-based waste and heat input operational limitations applicable to Units 1, 2 and 3; removal of the prohibition against "sewage sludge" use as a fuel in Units 1-4; and to use approximately 5 percent (%) biosolids, by weight, as received (treated, dewatered sewage sludge). The biosolids will have a solids content typically greater than or equal to 12%, and removal of the design capacity-based waste and heat input operational limitations applicable to Units 1, 2 and 3 leaves the presently applicable four-hour block steam rate of 102,000 lb/hour/unit as the permanently enforceable limit on capacity.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

03/31/2014 Received the application for a Title V air operation permit revision.

04/15/2014 Issued Draft/Proposed Title v air operation permit revision package.

PRIMARY REGULATORY REQUIREMENTS

Standard Industrial Classification (SIC) Code: 4953 - Refuse Systems.

North American Industry Classification System (NAICS): 562213 - Solid Waste Combustors and Incinerators.

HAP: The facility is identified as a major source of hazardous air pollutants (HAP).

Title IV: The facility does not operate units subject to the acid rain provisions of the Clean Air Act

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

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

NSPS: The facility operates units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

NESHAP: The facility operates units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

Siting: The facility is regulated under Chapter 62-17, F.A.C. – Electrical Power Plant Siting

CAM: Compliance Assurance Monitoring (CAM) does not apply to any of the units at the facility.

GHG: The facility is not identified as a major source of greenhouse gas (GHG) pollutants.

PROJECT REVIEW

This project incorporates the applicable requirements from air construction permit No. 0570261-016-AC that authorized the prohibition against "sewage sludge" use as a fuel in Units 1-4; and the use of approximately 5 percent (%) biosolids, by weight, as received (treated, dewatered sewage sludge) and removal of the design capacity-based waste and heat input operational limitations applicable to Units 1, 2 and 3 at the Hillsborough County Resource Recovery Facility.

To reflect the changes and conditions contained in permit No.0570261-014-AV, the following conditions of the Title V air operation permit are revised as indicated below. All changes have been emphasized with yellow highlight within the permit. All deletions to the permit are in ~~strikethrough~~ text while additions are in double underlined text. Where applicable, specific conditions in the permit has been re-numbered to reflect the additions and deletions of specific conditions.

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS
Subsection A. Emissions Units 001, 002 & 003 (Municipal Waste Combustor Units 1, 2 & 3.)

1. To reflect the removal of the design capacity-based waste and heat input operational limitations applicable to MWC Units 1, 2 and 3, and establishment of a four-hour block steam rate of 102,000 lb/hour pounds, Specific Condition **A.4.** has been changed as follows:

Essential Potential to Emit (PTE) Parameters

A.4. Capacity. ~~The maximum individual MWC throughput shall not exceed 460 TPD of MSW (1,380 TPD from MWC Units 1-3 combined), and, 102,000 pounds steam/hour (on a 4-hour block arithmetic average). The incinerators/boilers shall not be loaded in excess of their maximum operating capacity, equivalent to 1,380 TPD of MSW total, but no more than 1,200 TPD of MSW on an annual (52 week rolling average) average basis from MWC Units 1-3 combined. See 40 CFR 60.31b of Appendix 40 CFR 60, Subpart Cb and 40 CFR 60.58b(j) of Appendix 40 CFR 60, Subpart Eb for additional restrictions on capacity. [Rules 62-4.160(2) and 62-210.200 (PTE), F.A.C.; 40 CFR 60.31b & 40 CFR 60.58b(j); and Permit No. 0570261-002-AC/PSD-FL-121C, Specific Condition III.B.2.]~~ The maximum operating rate applicable to each of MWC Units 1, 2 and 3 measured as steam flow shall not exceed 102,000 pounds/hour based on 4-hour block averaged measurements and shall not exceed the "maximum demonstrated MWC unit load" defined as 110% of the highest 4-hour average MWC unit load achieved during 4 consecutive hours during the most recent dioxin/furan performance test.

{Permitting note: The nominal design rate capacity of each MWC Units 1, 2 and 3 is 400 tons/day and has been determined to be greater than 250 tons per day, thus classifying the units as a "large MWC units" under NSPS - 40 CFR 60, Subpart Eb.}
[Rules 62-4.160(2) and 62-210.200 (PTE), F.A.C.; 40 CFR 60.31b & 40 CFR 60.58b(j); and Permit No. 0570261-016-AC/PSD-FL-121E and PSD-FL-369D, Specific Condition 6.]

2. To reflect the removal of the prohibition against "sewage sludge" use as a fuel in Units 1, 2 and 3, Specific Condition **A.6.** has been modified as follows:

A.6. MWCs - Methods of Operation - Fuels.
a. *Allowable Fuels.*
(3) Sewage sludge may be utilized as a fuel after dewatering, as biosolids (containing at least 12% solids by weight).
b. *Unauthorized Fuels.*
(1) Shall not burn:
~~(g) Sewage sludge~~ [2]

[Rules 62-4.070(1)&(3), 62-213.410 and 62-213.440, F.A.C.; [1] Permit No. 0570261-002-AC/PSD-FL-121C, Specific Condition III.B.6.; and, [2] ~~PSD-FL-121, Specific Condition 5.~~ and Permit No. 0570261-016-AC/PSD-FL-121E and PSD-FL-369D, Specific Condition 4.~~]~~

3. To reflect the limitation of the biosolids combustion, Specific Condition **A.7.** has been inserted as follows:

A.7. Limitation of Biosolids. The owner or operator is authorized to combust up to 5% by weight (90 wet tons per day, as received) of biosolids that contain at least 12% solids, by weight, in MWC Units 1, 2, 3 and 4 combined. [Permit No. 0570261-016-AC/PSD-FL-121E and PSD-FL-369D, Specific Condition 5.]

4. To reflect the emission limit for mercury from MWC Units 1, 2, 3 and 4 combined when combusting sewage sludge biosolids, Specific Condition **A.15.** has been modified as follows:

Emission Limitations and Standards

A.15 Mercury. The emission limit for mercury (Hg) contained in the gases discharged to the atmosphere is 50 micrograms per dry standard cubic meter (µg/dscm) or 15 percent of the potential mercury emission concentration (85-percent reduction by weight), corrected to 7 percent oxygen, whichever is less stringent. Mercury emissions from MWC Units 1, 2, 3 and 4 combined shall not exceed 7.1 pounds per 24-hour period when combusting sewage sludge biosolids.
[Rule 62-204.800(9)(b)3.d., F.A.C.; 40 CFR 60.33b(a)(3); and, Permit No. 0570261-002-AC/PSD-FL-121C, Specific Condition III.B.8., and Permit No. 0570261-016-AC/PSD-FL-121E and PSD-FL-369D, Specific Condition 7.]

5. To reflect the Best Management Practices for Biosolids Utilization, Specific Condition **A.50.** has been inserted as follows:

Operator Practices, Training and Certification

A.50. Best Management Practices (BMP's) for Biosolids Utilization. To ensure good mixing of biosolids with other waste processed in MWC Units 1, 2, 3 and 4, the owner or operator shall document and employ best management practices (BMP's) when utilizing biosolids (dewatered sewage sludge) and include the following minimum requirements:
a. The BMP's shall be incorporated into the site-specific municipal waste combustor operator training and certification pursuant to Department's MWC Rule and 40 CFR 60, Subpart Eb, 60.54b, Standards for Municipal Waste Combustor Operator Training and Certification.
b. The BMP's shall provide for operator training and identify and implement practices that promote good mixing and combustion.
c. All mixing shall occur in a waste storage bunker or refuse pit. Biosolids shall not be placed on the tipping floor, or alone, in a waste storage bunker.

d. The operator shall evenly spread biosolids with the crane grapple(s) over the top of the MSW in the waste storage bunker. Other MSW may be spread over the top of the biosolids.
e. Well-mixed (combined) materials shall be fed directly into the combustor feed hopper.
f. The owner or operator shall maintain records including the source, classification and typical characteristics (e.g. metals, pathogen results, solids) and amount introduced into the process.
[Rules 62-4.070(1) and (3), F.A.C., Reasonable Assurance; Department's MWC Rule and 40 CFR 60, Subpart Eb; and Permit No. 0570261-016-AC/PSD-FL-121E and PSD-FL-369D, Specific Condition 11.]

Due to the insertion of the **Specific Conditions A.7.** & **A.50.** the existing **Specific Conditions A.7.** & **A.50.** have been renumbered to **A.8.** & **A.51.** with subsequent specific conditions renumber accordingly.

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS
Subsection B. Emissions Unit 107 (Municipal Waste Combustor Unit 4.)

6. To reflect the removal of the prohibition against "sewage sludge" use as a fuel in Unit 4, Specific Condition **B.6.** has been modified as follows:

Essential Potential to Emit (PTE) Parameters

B.6. MWCs - Methods of Operation - Fuels.
a. *Allowable Fuels.*
(3) Sewage sludge may be utilized as a fuel after dewatering, as biosolids (containing at least 12% solids by weight).
b. *Unauthorized Fuels.*
(1) Shall not burn:
~~(g) Sewage sludge~~

[Rules 62-4.070(1)&(3), 62-213.410 and 62-213.440, F.A.C.; Permit No. 0570261-007-AC/PSD-FL-369, and Permit No. 0570261-016-AC/PSD-FL-121E and PSD-FL-369D, Specific Condition 4.]

7. To reflect the limitation of the biosolids combustion, Specific Condition **B.7.** has been inserted as follows:

B.7. Limitation of Biosolids. The owner or operator is authorized to combust up to 5% by weight (90 wet tons per day, as received) of biosolids that contain at least 12% solids, by weight, in MWC Units 1, 2, 3 and 4 combined. [Permit No. 0570261-016-AC/ PSD-FL-121E and PSD-FL-369D, Specific Condition 5.]

8. To reflect the emission limit for mercury from MWC Units 1, 2, 3 and 4 combined when combusting sewage sludge biosolids, Specific Condition **B.15.** has been modified as follows:

Emission Limitations and Standards

B.15. Mercury (Hg). Emissions of Hg shall not exceed 28 µg/dscm or an emissions reduction of 85 percent shall be achieved as demonstrated during the required annual stack test. During the first two years of operation, emissions of Hg shall not exceed 0.022 lb/hr as measured during quarterly stack tests to provide reasonable assurance that 12-month emissions are less than the applicable PSD threshold of 200 lb/yr.

After the certification of the Hg-CEMS or the Hg-CASS as described in Specific Condition **B.35.,** the owner or operator may demonstrate compliance with all Hg limits in this permit with data collected during an annual stack test or from the Hg-CEMS or the Hg-CASS. Mercury emissions from MWC Units 1, 2, 3 and 4 combined shall not exceed 7.1 pounds per 24-hour period when combusting sewage sludge biosolids.

{Permitting note: If the Hg-CEMS is certified prior to the end of the first two years of operation, the permittee may use the CEMS in lieu of the remaining quarterly tests.}

[Permit No. 0570261-013-AC/PSD-FL-369C, Specific Condition 3.B.19., and Permit No. 0570261-016-AC/PSD-FL-121E and PSD-FL-369D, Specific Condition 7. and Rule 62-212.400(12) (Source Obligation, escape PSD BACT), F.A.C.]

9. To reflect the Best Management Practices for Biosolids Utilization, Specific Condition **B.48.** has been inserted as follows:

Operator Practices, Training and Certification

B.48. Best Management Practices (BMP's) for Biosolids Utilization. To ensure good mixing of biosolids with other waste processed in MWC Units 1, 2, 3 and 4, the owner or operator shall document and employ best management practices (BMP's) when utilizing biosolids (dewatered sewage sludge) and include the following minimum requirements:

a. The BMP's shall be incorporated into the site-specific municipal waste combustor operator training and certification pursuant to Department's MWC Rule and 40 CFR 60, Subpart Eb, 60.54b, Standards for Municipal Waste Combustor Operator Training and Certification.
b. The BMP's shall provide for operator training and identify and implement practices that promote good mixing and combustion.
c. All mixing shall occur in a waste storage bunker or refuse pit. Biosolids shall not be placed on the tipping floor, or alone, in a waste storage bunker.
d. The operator shall evenly spread biosolids with the crane grapple(s) over the top of the MSW in the waste storage bunker. Other MSW may be spread over the top of the biosolids.
e. Well-mixed (combined) materials shall be fed directly into the combustor feed hopper.
f. The owner or operator shall maintain records including the source, classification and typical characteristics (e.g. metals, pathogen results, solids) and amount introduced into the process.

[Rules 62-4.070(1) and (3), F.A.C., Reasonable Assurance; Department's MWC Rule and 40 CFR 60, Subpart Eb, and Permit No. 0570261-016-AC/PSD-FL-121E and PSD-FL-369D, Specific Condition 11.]

Due to the insertion of the Specific Conditions **B.7.** & **B.48.** the existing Specific Conditions **B.7.** & **B.48.** have been renumbered to **B.8.** & **B.49.** with subsequent specific conditions of the permit renumber accordingly.

10. Replacement of Appendix TV, Title V General Conditions, Appendix TR, Facility-wide Testing Requirements and Appendix RR, Facility-wide Reporting Requirements with the newest versions.

11. Insertion of Appendix 40 CFR 61 Subpart A, NESHAP General Provisions, and Appendix 40 CFR 61, Subpart E, NESHAP for Mercury to the appendices section.

See final air construction permit No. 0570261-016-AC (PSD-FL-121E and PSD-FL-369D) for details of the changes that are being made to the Title V permit. The Technical Evaluation and Preliminary Determination for that project summarize the requested changes made to the underlying air construction permit conditions. These changes, which are summarized above, have been reflected in the revised draft/proposed Title V air operation permit.

These documents along with all other associated documents in the issued draft/proposed permit package can be accessed by entering file number in the permit number field at the web link given below
http://www.dep.state.fl.us/air/emission/apds/default.asp

CONCLUSION

This project revises Title V air operation permit No. 0570261-014-AV, which was effective on MAY 4, 2012. This Title V air operation permit revision is issued under the provisions of Chapter 403, Florida Statues (F.S.), and Chapters 62-4, 62-210 and 62-213, 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.