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

Draft/Proposed Permit No. 0990234-022-AV, Title V Air Operation Permit Revision

APPLICANT

The applicant for this project is the Solid Waste Authority of Palm Beach County. The applicant's responsible official and mailing address are: Mr. Mark Hammond, Executive Director, Solid Waste Authority of Palm Beach, 7501 North Jog Road, West Palm Beach, Florida 33412.

FACILITY DESCRIPTION

The North County Regional Resource Recovery Facility is located in Palm Beach County at 7501 North Jog Road, West Palm Beach, Florida.

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

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

The facility is owned by the Solid Waste Authority.

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

PROJECT DESCRIPTION

The purpose of this permit is to revise the Title V air operation permit for the above referenced facility to reflect the refurbishment of the two existing municipal solid waste combustors (Units 1 and 2) previously authorized by Permit No. 0990234-015-AC/PSD-FL-108H and to incorporate minor revisions from Permit No. 0990234-021-AC/PSD-FL-108J, issued concurrently with this permit.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for a Title V Air Operation Permit Revision and Application for Concurrent Air Construction/PSD Permit Revision was received on September 16, 2011.

Received information supporting the request to make the carbon silo an insignificant emissions unit in the Title V permit on October 4, 2011.

Received a request to eliminate the annual test requirement for ammonia on October 26, 2011.

Draft Air Construction Permit Revision clerked (issued) on Month day, 2011.
Draft/Proposed Title V Air Operation Permit Renewal posted onto web site on Month day, 2011.
Public Notice published on Month day, 2011.
Notification to U.S. EPA Region 4 of Publication of Public Notice on Month day, 2011.

PRIMARY REGULATORY REQUIREMENTS

Title I: This facility is a major source of hazardous air pollutants (HAP), based on the Title V air operation permit renewal application.

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

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

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

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

CAIR: This facility does not operate units subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

Siting: This facility operates units subject to the power plant siting provisions of Chapter 62-17, F.A.C.

CAM: The BPF sludge dryer trains (Emissions Unit ID Nos. 010 and 011) are subject to Compliance Assurance Monitoring (CAM). A CAM Plan is included in this permitting action.

The remaining emissions units at this facility are not subject to CAM for one or more of the following reasons: they do not trigger the potential pre-air pollution control device major source emission thresholds; they demonstrate continuous compliance with a continuous emission monitoring system (CEMS); they are not equipped with air pollution control device(s); they are equipped with device(s) which are considered to be inherent to the process/operation; or, they satisfy CAM by meeting the post-1990 40 CFR 60 Subparts Cb/Eb federal monitoring requirements for the same or similar air pollutants.

The U.S. EPA letter dated July 7, 1999 (attached to permit), supports the use of monitoring under the post-1990 40 CFR 60 Subparts Cb/Eb to satisfy CAM for the same air pollutants and mentions the use of surrogate pollutants for similar air pollutants. Air pollutants specifically regulated under 40 CFR 60 Subparts Cb/Eb for Municipal Waste Combustors (MWCs) are: total particulate matter (PM); metals and metal compounds (cadmium (Cd), mercury (Hg) and lead (Pb)); all acid gases (including, but not limited to, sulfur dioxide (SO_2) and hydrogen chloride (HCl) gases); organic compounds (includes dioxins/furans (D/F)); nitrogen oxides (NOx); and, carbon monoxide (CO). In addition to the air pollutant limits specified under 40 CFR 60 Subparts Cb/Eb for MWCs, some of the same air pollutants are regulated for other reasons i.e., PSD BACT, state implementation plan (SIP) standard, etc. A streamlined approach for multiple emission limits of the same air pollutant is preferred for simplified monitoring. As outlined in the U.S. EPA letter and described herein, monitoring under the post-1990 40 CFR 60 Subpart Cb/Eb for the RDF Boiler Nos. 1 and 2 is therefore, deemed to be adequate for the same air pollutants.

The BPF recycle material bin and pellet storage silo baghouses (Emissions Unit ID Nos. 012 & 014) are considered to be inherent to the process/operation. These baghouses are therefore exempt from CAM.

PROJECT REVIEW

Changes were made to the specific conditions of the renewed Title V air operation permit.

Permit

- AC/PSD Permit Revisions. The applicant requested the refurbishment of the two existing municipal solid waste combustors (Units 1 and 2) previously authorized by Permit No. 0990234-015-AC/PSD-FL-108H be included in the Title V permit. The refurbishment project consisted of adding or replacing some air pollution control (APC) systems, as well as maintenance, repair and in-kind replacement of other components of the facility. The project consisted of removing the existing electrostatic precipitators (ESP) and replacing them with new fabric filters; installing new selective non-catalytic reduction (SNCR) systems, installing new Activated carbon injection (ACI) systems; and, installing new combustion control systems and improved overfire air (OFA) systems. In addition, the concurrent processing of an air construction permit revision to change air construction/PSD permit conditions. See Permit No. 0990234-021-AC/PSD-FL-108J for the changes made. The Technical Evaluation and Preliminary Determination summarize these requested changes, the Department's responses and identify the changes made to the underlying air construction permit conditions. These changes have been reflected within the Title V air operation permit.

CONCLUSION

This project revises Title V air operation permit No. 0990234-020-AV, which was effective October 5, 2016.

North County Resource Recovery Facility

http://www.swa.org/site/information_and_documents/ncrrf.htm