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

Draft/Proposed Permit No. 0990234-020-AV, Title V Air Operation Permit Renewal

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 and operated by Palm Beach Resource Recovery Corporation, a subsidiary of Babcock and Wilcox Corporation.

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

PROJECT DESCRIPTION

The purpose of this permitting project is to renew the Title V air operation permit for the above referenced facility and to incorporate minor revisions from Permit No. 0990234-019-AC, issued concurrently with this permit.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for a Title V Air Operation Permit Renewal and Application for Concurrent Air Construction/PSD Permit Revision received via Electronic Permit Submittal and Processing System (EPSAP) on November 17, 2010.
Request for Additional Information dated January 10, 2011 and sent via e-mail on January 12, 2011.
Additional Information Response received via e-mail on March 17, 2011.
Correspondence from CDM dated April 8, 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 III: 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 in the format of this renewed Title V air operation permit.

Permit

- Beryllium Emissions from RDF Boiler Nos. 1 and 2. A Prevention of Significant Deterioration (PSD)/Best Available Control Technology (BACT) determination was performed in 1992. PSD-FL-108A, Specific Condition 3.f., limits beryllium (Be) emissions from the RDF Boiler Nos. 1 and 2. Rule 62-210.200 (Significant Emission Rates), F.A.C. no longer lists Be, therefore, Be was effectively

"delisted" as a PSD pollutant in this rule change effective August 15, 1999. The Be limit is deemed to be obsolete in accordance with Rule 62-210.300(1)(b), F.A.C. The affected Emissions Unit/ E.U. ID Nos. are: 001 (Municipal Solid Waste Boiler No. 1) and 002 (Municipal Solid Waste Boiler No. 2).

- Municipal Solid Waste Landfills and Flares. The affected Emissions Units/ E.U. ID Nos. are 004 (Class III Landfill and Flare (1,800 scfm manufactured by LFG Specialties, model number PCF820I8)) and 008 (Class I Landfill and Flare (3,500 scfm, manufactured by Shaw LFG Specialties, model number CF1238I10)).

  The applicable requirements from the NSPS 40 CFR 60, Subpart WWW and the NESHAP (MACT) 40 CFR 63, Subpart AAAA had been contained within the body of the permit in Subsection III.B. {The NSPS had been in specific conditions B.1.-B.50., the MACT in specific conditions AAAA.0-AAAA.5., and the General Provisions (Subpart A) for both the NSPS and the MACT were in specific conditions B.48. and G.1.-G.11.} The provisions from the NSPS 40 CFR 60, Subpart WWW and the NESHAP (MACT) 40 CFR 63, Subpart AAAA in their entirety are attached to the permit in Appendix 40 CFR 60 Subpart WWW and 40 CFR 63 Subpart AAAA. Select specific applicable requirements were included in the body of the permit as specific conditions. Special approvals by U.S. EPA and the Department were kept within the body of the permit and the approvals were included as attachments.

- Completed Projects. Under Permit No. 0990234-012-AC, the applicant was authorized to make changes to the flares at the landfills and to install a new emergency generator (engine) at the new operations building. Permit No. 0990234-012-AC expired on December 31, 2010.

  In this permit renewal application, the applicant indicated that it did complete the replacement of the Class I flare (Emissions Unit ID No. 008) with a new one manufactured by Shaw LFG Specialties and installed the new emergency generator (engine) (Emissions Unit ID No. 021) at the new operations building, but delayed the de-ration of the old Class I flare for use at the Class III landfill and converting the existing Class III flare to back up use.

- BPF Sludge Dryer RTO Trains. The affected Emissions Unit/ E.U. ID Nos. are 010 and 011 (Sludge Dryer Train #1 and #2).
  - CAM Plan An initial CAM Plan for the BPF sludge dryer RTO trains is included in this permit.
  - Hg Testing. Hg stack test frequency requirements were reviewed for similar sludge dryers in Florida. Four sludge dryer facility permits were reviewed and all required 5-year stack testing for Hg emissions. A 5-year test frequency for the sludge dryer RTO trains at the BPF is deemed appropriate, consistent with similarly permitted sludge dryers in Florida.

- Engines. Engines in the previous permit, Permit No. 0990234-016-AV, were listed in Appendices U and I. These engines are now 'regulated' emissions units under recently promulgated federal regulations; specifically, 40 CFR 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE). These engines are included in this permit as 'regulated' emissions units within the body of the permit in Subsection D.

  Also, the two engines, E.U. ID Nos. -016 and -021, previously within the body of Permit No. 0990234-016-AV are consolidated into Subsection D.

- AC/PSD Permit Revisions. The applicant requested the concurrent processing of an air construction permit revision to change air construction/PSD permit conditions. See Permit No. 0990234-019-AC/PSD-FL-108I for the changes made. The Technical Evaluation and Preliminary Determination summarizes the requested changes, the Department's responses and identifies 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 renews Title V air operation permit No. 0990234-010-AV, which was effective July 2, 2006.

North County Resource Recovery Facility

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