TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

Hillsborough County

350 North Falkenburg Road
Tampa, Florida

Hillsborough County Resource Recovery Facility
Facility ID No. 0570261

PROJECT

Draft Permit No. 0570261-015-AC/PSD-FL-121D
Application for Minor Source Air Construction Permit
Miscellaneous Revisions

COUNTY

Hillsborough County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Office of Permitting and Compliance
2600 Blair Stone Road, MS#5505
Tallahassee, Florida 32399-2400

March 13, 2012

1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control - General Provisions); 62-210 (Stationary Sources - General Requirements); 62-212 (Stationary Sources - Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources - Emissions Monitoring). Specifically, air construction permits are required pursuant to Rules 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations on a quarterly basis in Rule 62-204.800, F.A.C.

Facility Description and Location

This existing plant is a mass-burn municipal waste combustor (MWC) plant categorized under Standard Industrial Classification No. 4953. This existing plant is located in Hillsborough County at 350 North Falkenburg Road in Tampa, Florida. The UTM Coordinates are: Zone 17, 368.2 km East and 3092.7 km North; Latitude: 27° 57' 14" North and Longitude: 82° 40' 22" West.

This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to state and federal Ambient Air Quality Standards (AAQS).

Facility Regulatory Categories

- The facility is a major source of hazardous air pollutants (HAP).
- This facility does not operate units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Project Description

As part of the project for the Title V air operation permit renewal (Project No. 0570261-014-AV), the applicant requested a concurrent air construction permit revision to change several underlying construction permit conditions.

Application Processing Schedule

Application for a Title V Air Operation Permit Renewal and Application for Concurrent Air Construction (AC)/PSD Permit Revision received on May 11, 2011.

Requested Changes to AC/PSD permits dated and received from CDM (on behalf of Applicant) on September 20, 2011.

Additional Requested Changes to AC/PSD permits dated and received from CDM (on behalf of Applicant) on October 17, 2011.

Requested Changes to AC/PSD permits received via e-mail on March 6, 2012.

Relevant Documents

- Permit No. 0570261-002-AC/PSD-FL-121C (MWC Unit Nos. 1-3).
- Permit No. 0570261-004-AC.
- Permit No. 0570261-010-AC/PSD-FL-369B (Ash Building and Handling System)

2. PSD APPLICABILITY

General PSD Applicability

For areas currently in attainment with the state and federal AAQS or areas otherwise designated as unclassifiable, the Department regulates major stationary sources of air pollution in accordance with Florida's PSD preconstruction review program as defined in Rule 62-212.400, F.A.C. Under preconstruction review, the Department first must determine if a project is subject to the PSD requirements ("PSD applicability review") and, if so, must conduct a PSD preconstruction review. A PSD applicability review is required for projects at new and existing major stationary sources. In addition, proposed projects at existing minor sources are subject to a PSD applicability review to determine whether potential emissions *from the proposed project itself* will exceed the PSD major stationary source thresholds. A facility is considered a major stationary source with respect to PSD if it emits or has the potential to emit:

- 5 tons per year or more of lead;
- 250 tons per year or more of any regulated air pollutant; or
- 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the following 28 PSD-major facility categories: fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), Kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants and charcoal production plants.

Once it is determined that a project is subject to PSD preconstruction review, the project emissions are compared to the "significant emission rates" defined in Rule 62-210.200, F.A.C. for the following pollutants: carbon monoxide (CO); nitrogen oxides (NO_X); sulfur dioxide (SO_2); particulate matter (PM); particulate matter with a mean particle diameter of 10 microns or less (PM_{10}); volatile organic compounds (VOC); lead (Pb); fluorides (F); sulfuric acid mist (SAM); hydrogen sulfide (H_2S); total reduced sulfur (TRS), including H_2S; reduced sulfur compounds, including H_2S; municipal waste combustor organics measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans; municipal waste combustor metals measured as PM; municipal waste combustor acid gases measured as SO_2 and hydrogen chloride (HCl); municipal solid waste landfills emissions measured as non-methane organic compounds (NMOC); and mercury (Hg). In addition, significant emissions rate also means any emissions rate or any net emissions increase associated with a major stationary source or major modification which would construct within 10 kilometers of a Class I area and have an impact on such area equal to or greater than 1 $\mu g/m^3$, 24-hour average.

If the potential emission exceeds the defined significant emissions rate of a PSD pollutant, the project is considered "significant" for the pollutant and the applicant must employ the Best Available Control Technology (BACT) to minimize the emissions and evaluate the air quality impacts. Although a facility or project may be *major* with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants.

PSD Applicability for Project

The project will revise miscellaneous permit conditions. There will be no emissions increases and the project is not subject to PSD preconstruction review. A 30-day comment period for this AC/PSD permit revision will be specified commencing with the 30-day comment period for the draft/proposed Title V air operation permit.

3. DEPARTMENT REVIEW

Response to Requested Revisions

As part of the project for the Title V air operation permit renewal (Project No. 0570261-014-AV), the applicant requested several changes to Title V air operation permit conditions. Some of these changes required revisions to the underlying PSD/air construction permit conditions, which are explained below in this Technical Evaluation and Preliminary Determination.

The applicant requested changes to AC/PSD permits by submitting a request with the Title V air operation permit renewal (Project No. 0570261-014-AV).

1st Permit Being Modified: Permit No. 0570261-002-AC/PSD-FL-121C
Affected Emissions Units: Municipal Waste Combustor Nos. 1, 2 and 3 (E.U. ID Nos. 001, 002 & 003)

The "Specific Condition No." cited below refers to the specific condition in PSD-FL-121C.

1. Specific Condition III.B.8., limits beryllium (Be) emissions from each unit to 1.48 µg/dscm & 9.6E-04 ton/yr and Specific Condition III.B.9. requires testing.

   Applicant's Requested Change:

   The applicant requested the Be emissions limit and testing requirements be removed for MWC Nos. 1, 2 and 3.

   Department's Response:

   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 emissions limit and associated testing requirements are removed from the permit.

2. Specific Condition III.B.8., limits fluoride (F) emissions from each unit to 6.74 mg/dscm & 4.43 tons/yr and Specific Condition III.B.9. requires testing.

   Applicant's Requested Change:

   The applicant requested the F emissions limit and testing requirements be removed for MWC Nos. 1, 2 and 3.

   Department's Response:

   Fluoride (F) is a PSD pollutant; however, F is not emitted directly by a municipal waste combustor (MWC). In an exhaust stream rich with moisture, like from an MWC, F is emitted in the form of an acid gas - hydrofluoric acid (HF). HF is not a PSD pollutant; yet typically, all of the HF emitted is assumed to be F. The latest update to 40 CFR 60, Subparts Cb/Eb (May 10, 2006) does not include a limit for F emissions but, does limit MWC acid gases with specific emission limits for SO_2 and HCl. HF is a strong acid gas. Indirectly, HF/F is therefore restricted by the federal MWC acid gas (SO_2 and HCl) standards.

   The Department recently issued a PSD/AC permit for the SWA's Palm Beach Renewable Energy Facility No. 2 on December 23, 2010, and determined that "it was unnecessary to set a BACT based limit or testing requirements for F given the history at the NCRRF." A detailed review of 5-year stack testing data at the HCRRF in the Department's database indicates F emissions from MWC Nos. 1, 2 and 3 ranged from 97 - 98 % below the limit. The corresponding equivalent tons per year (TPY) values ranged from 0.0789 - 0.0940 TPY for MWC No. 1, from 0.0789 - 0.1032 TPY for MWC No. 2 and from 0.0828 - 0.0894 TPY for MWC No. 2. Maximum emissions during the 5-year period for MWC Nos. 1, 2 & 3

were therefore 0.29 TPY. The data confirms what the applicant had indicated that F emissions were orders of magnitude below the emission limit.

Based on the stack testing history, the fact that these units have acid gas controls (spray dryer absorbers) and the federal MWC acid gas emission limits apply to these units, there are reasonable assurances that actual F emissions from the MWC Nos. 1, 2 & 3 should remain at their current levels which is much less than 3 TPY (the PSD Significant Emission Rate (SER) or the level to trigger a BACT determination). Actual emissions are about 1/100th or 1% of the PSD SER.

For these reasons, the Department believes that there is no longer a need to limit or test for F emissions from the MWC Nos. 1, 2 and 3 at the HCRRF. The F emissions limit and testing requirements for MWC Nos. 1, 2 and 3 are removed from the permit.

3. Specific Conditions III.B.8., 17.(a) and 20.(d), contain a 10% restriction on natural gas as an auxiliary fuel and the associated recordkeeping.

Applicant's Requested Change:

The applicant requested the 10% restriction on natural gas as an auxiliary fuel and the associated recordkeeping in these specific conditions be deleted.

Department's Response:

A 10% restriction on the firing of natural gas as an auxiliary fuel fired in burners had been in all MWC permits prior to the 40 CFR 60, Subpart Db being amended. The NSPS 40 CFR 60, Subpart Db, as amended on June 13, 2007, includes an exemption for units regulated under the EG 40 CFR 60, Subpart Cb (see 40 CFR 60.40b(k)). Therefore, the requirement specifying a 10% restriction on natural gas as an auxiliary fuel and any associated recordkeeping requirement are now obsolete under the federal regulation. The requested deletion is made.

2nd Permit Being Modified: Permit No. 0570261-004-AC
Affected Emissions Units: Dolomitic Lime Storage Silo (E.U. ID No. 106)

The "Specific Condition No." cited below refers to the specific condition in Permit No. 0570261-004-AC.

1. Permit No. 0570261-004-AC was for the Dolomitic Lime Storage Silo (E.U. ID No. 106).

Applicant's Requested Change:

The applicant requested the Dolomitic Lime Storage Silo (E.U. ID No. 106) be removed. This silo was completely enclosed within the new air pollution control building.

Department's Response:

The emissions unit description is changed to read as follows:

E.U. ID No.	Brief Description
~~106~~	~~Dolomitic Lime Storage Silo~~

~~Lime used for ash conditioning for each for each municipal waste combustor is stored in a silo. Emissions from the silo are controlled by a baghouse filter.~~

…

Specific Condition No. III.2.-5. which contain specific emission limits and test methods are deleted.

3rd Permit Being Modified: Permit No. 0570261-010-AC/PSD-FL-369B
Affected Emissions Units: Ash Building and Handling System (E.U. ID Nos. 100 & 112)

Applicant's Requested Change:

The applicant provided information from the scrubber manufacturer, Tri-Mer Corporation, that indicates a different differential pressure.

Department's Response:

The visible emissions (VE) compliance test conducted on December 15, 2009, was performed with the scrubber operating at 9 inches of water column (w.c.) and the results were 0% opacity. Two subsequent compliance tests were conducted in 2010 (September 28, 2010) and in 2011 (July 6, 2011) and also showed 0% opacity.

Based on the information provided by the scrubber manufacture and the compliance test results, the affected Specific Condition No. 3.C.3. from PSD-FL-369B is hereby changed as follows (the remainder of the permit remains unchanged as a result of this permitting action):

Specific Condition No. 3.C.3.

C.3. Wet Scrubber Controls.

…

A Dwyer magnehelic pressure gauge/switch (or equivalent) shall be operated to measure the differential pressure across the unit control and control the water level to maintain a differential pressure of 8.0 ± ~~0~~1.5 inches of water column. In addition, an alarm system shall be operated to warn of high water levels and low water levels. [Rule 62-4.070(1)&(3), F.A.C.; Permit No. 0570261-010-AC/PSD-FL-369B, Specific Conditions 3.C.3. & 3.C.9.; and, Applicant Request/Design.]

Revisions

The approved revisions are shown in ~~strikethrough~~ (for deletions) and double-underlines (for additions) format within the permit revision itself. All changes are emphasized with yellow highlight.

4. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. No air quality modeling analysis is required because the project does not result in a significant increase in emissions.

Mr. Scott M. Sheplak, P.E. is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting him by telephone at 850/717-9074 or by e-mail at scott.sheplak@dep.state.fl.us in the Department's Office of Permitting and Compliance at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.