TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION

APPLICANT

Lee County Department of Solid Waste Management
10500 Buckingham Road
Fort Myers, Florida 33905-7012

Lee County Resource Recovery Facility
Facility ID No. 0710119

PROJECT

Draft Permit No. 0710119-010-AC/PSD-FL-151G
Application for Minor Source Air Construction Permit
Removal of Ammonia CEMS for Unit 3

COUNTY

Lee County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Office of Permitting and Compliance
Chemicals and Combustion Key Industry Group
2600 Blair Stone Road, MS#5505
Tallahassee, Florida 32399-2400
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August 24, 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 facility is an existing municipal waste combustor plant, which is categorized under Standard Industrial Classification Code No. 4953. The existing plant is located in Lee County at 10500 Buckingham Road, Fort Myers. UTM Coordinates are: Zone 17, 424.21 km East and 2945.70 km North. Latitude is 26° 37’ 54” North, and Longitude is 81° 45’ 41” 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 a 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

The applicant requests a revision of conditions in original PSD Permit No. 0710119-005-AC/PSD-FL-151D to replace the requirement to continuously monitor ammonia emissions from municipal waste combustor Unit No. 3 (EU-006) with an annual stack test requirement. As part of the project the Title V air operation permit will be concurrently revised as project No. 0710119-011-AV to incorporate the changes made in the air construction permit conditions.

Application Processing Schedule

On July 23, 2012, the Department received the application for minor air construction permit modification.

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:

- 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, which includes municipal incinerators capable of charging more than 250 tons of refuse per day.

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 existing waste-to-energy plant is an existing major station source. The project will revise miscellaneous underlying air construction/PSD permit conditions. There will be no emissions increases and the project is not subject to PSD preconstruction review.

3. DEPARTMENT REVIEW

The original purpose of continuously monitoring ammonia slip was to provide assurance that the control system was adequately designed to prevent "over-dosing" the ammonia feed to meet its NO_X emissions limit. See Table 1.

Table 1. Monthly Ammonia (NH_3) Slip and NO_X Averages

The monthly average ammonia slip values have been recorded by the Midac system since it was installed. As shown, recorded values have been well below the permitted ammonia slip limit of 30 ppm corrected to 7% oxygen while simultaneously complying with the NO_X emission standard. This data demonstrates that the installed control system successfully controls NO_X emissions without excessive ammonia slip.

Since the data provides reasonable assurance of satisfactory design capabilities over several years, the applicant requests approval to remove the ammonia CEMS. In addition, this equipment is becoming expensive to repair and maintain as many replacement parts are no longer available. The Department agrees that the ammonia CEMS has served the intended purpose and can be removed. The permit will be revised to remove the ammonia CEMS and replace it with annual stack testing. See draft permit.

5. 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. Yousry (Joe) Attalla is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the Department's Office of Permitting and Compliance at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.