TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

Waste Management, Inc. of Florida
3750 White Lake Boulevard
Naples, Florida 34117
Collier County Landfill
Facility ID No. 0210051

PROJECT

Project No. 0210051-017-AC
Application for Air Construction Permit
Increase RICE Heat Input

COUNTY

Collier, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Air Resource Section
South District Office

2295 Victoria Avenue, Suite 364
Fort Myers, Florida 33902-2549

Telephone: (239) 344-6400
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July 18, 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.

Glossary of Common Terms

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of this permit.

Facility Description and Location

Collier County Landfill is an existing landfill, which is categorized under Standard Industrial Classification Code No. 4953. The facility is be located in Collier County at 3750 White Lake Boulevard in Naples, Florida. The UTM coordinates of the existing facility are Zone 17, 433.92 East and 2893.22 North.. 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 not a major source of hazardous air pollutants (HAP).
- The facility has no 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

This project increases the heat input for the eight RICE permitted under Permit No. 0210051-014-AC.

Processing Schedule

May 30, 2012 Received the application for a minor source air pollution construction permit.

May 30, 2012 Application complete.

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: 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 (Fl); 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 particulate matter; 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

This project only changes the heat input to the eight RICE permitted under Permit No. 0210051-014-AC. The gas flow to each individual engine and the total gas flow to all eight RICE and the two 1,200 scfm flares remain unchanged. The methane content of the landfill gas is higher than originally proposed. The potential emissions are proposed to be the same as in Permit No. 0210051-014-AC. All permitted emission limits remain unchanged.

As provided in the application, the following table summarizes potential emissions and PSD applicability for the project.

Table A. Potential Emissions (Tons/Year) and PSD Applicability

Pollutant	Project Potential Emissions (TPY)	Significant Emissions Rate (TPY)	Subject To PSD?
CO	239.4	139.6	No
NO_X	133.0	43.9	No
PM/PM_{10}	10.7	13.4	No
SO_2	109.2	60.6	No
VOC	18.7	2.17	No

As shown in the above table, total project emissions will not exceed the PSD significant emissions rates; therefore, the project is not subject to PSD preconstruction review.

3. APPLICATION REVIEW

Discussion of Emissions

Emissions from this project remain unchanged from the limits permitted under Permit 0210051-014-AC. The landfill methane content was higher than projected. Therefore the heat input for the engines may be greater than originally proposed. Waste Management contacted FDEP about increasing the permitted heat input for the engines. The Department agreed to revised Permit No. 0120051-014-AC based on the following conditions per the November 17, 2011 email from Syed Arif of FDEP to David Thorley of Waste Management:

- Testing on one engine at the higher heat input rate.
- Testing on the engine should be conducted as it was done during the initial compliance test. The test protocol should mimic the one submitted for the initial compliance test.
- Measurement of gas flow to the engine being tested should be done during the test.
- Measure the methane content of the gas being combusted during the test.
- If the test demonstrates compliance with the permit limits, an air construction application for the revision of the AC permit shall be submitted to the South District Office.

On January 18, 2012 compliance testing was completed on one RICE (EU010) to fulfill the above conditions. The testing demonstrated a higher heat input average of 9.16 mmBtu/hr. Average emissions were demonstrated to be under current permitted limits. The average gas flow was 274 scfm and the average methane content was approximately 60%.

Federal NSPS Provisions

The internal combustion engines are subject to 40 CFR 60 Subpart A (General Provisions) and 40 CFR 60 Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines). The proposed flare is subject to 40 CFR 60 Subpart A (General Provisions).

Federal NESHAP Provisions

The proposed internal combustion engines are subject to 40 CFR 63 Subpart A (General Provisions) and 40 CFR Subpart ZZZZ (National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines).

Other Draft Permit Requirements

With the exception of the permitted capacity for the eight engines, all remaining specific conditions in Permit No. 0210051-014-AC remain in effect.

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. Susan Machinski 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 the Department of Environmental Protection's Air Resource Section in the South District Office at P.O. Box 2549, Fort Myers, Florida 33902-2549.