# TECHNICAL EVALUATION
# &
# PRELIMINARY DETERMINATION

## APPLICANT

Covanta Lake II, Inc.
3830 Rogers Industrial Park Road
Okahumpka, Florida 34762

Lake County Resource Recovery Facility
Facility ID No. 0690046

## PROJECT

Draft Permit No. 0690046-014-AC/PSD-FL-113I
Application for Minor Source Air Construction (AC) Permit
Waste (Fuel Slate) Changes & Miscellaneous Revisions

## COUNTY

Lake 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

January 2013

## 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 facility categorized under Standard Industrial Classification No. 4953. The existing Lake County Resource Recovery Facility is located in Lake County at 3830 Rogers Industrial Road, Okahumpka, Florida.

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 applied on July 13, 2012, to the Department for a minor source air construction permit. The minor source air construction permit is for combustion of higher rates of non-MSW materials ("non-hazardous solid and liquid wastes"), waste (fuel slate) revisions and a miscellaneous revision at the existing municipal waste combustor facility.

### Application Processing Schedule

Application for Air Construction Permit received on July 13, 2012.
1st Request for Additional Information (RAI) sent on August 15, 2012.
Additional Information Response from Applicant received on October 23, 2012.
2nd RAI sent on November 2, 2012.
Additional Information Response from Applicant received on December 17, 2012 (complete application).

{Documents specifically related to this project are posted and available on the Department's world wide website at http://appprod.dep.state.fl.us/air/emission/apds/default.asp by entering the project number shown above.}

**Relevant Documents**

- PSD-FL-113 (Municipal Solid Waste Combustor Unit Nos. 1 & 2).
- Permit No. 0690046-003-AC/PSD-FL-113E (Added waste (fuel slate) specific conditions).
- Permit No. 0690046-008-AC/PSD-FL-113H (Added regulated garbage from international or interstate movements).
- Permit No. 0690046-010-AV, Current Title V Air Operation Permit.
- HB 503, an amendment to Section 403.707(1), F.S. (2012).

## 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" (SERs) 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 increase in emissions from the project 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.

**List of Significant Emission Rates by PSD-(Air) Pollutant Relevant to the Facility [1]**

| PSD-(Air) Pollutant | SER, tons/year | PSD-(Air) Pollutant | SER, tons/year |
|---|---|---|---|
| PM | 25 | CO | 100 |
| $PM_{10}$ | 15 | NOx | 40 |
| $PM_{2.5}$ | 10 | Ozone [NOx] [3] | 40 |
| $PM_{2.5}$ [NOx] [2] | 40 | Volatile Organic Compounds (VOC) | NA [4] |
| $PM_{2.5}$ [$SO_2$] [2] | 40 | Ozone [VOC] [3] | 40 |
| Lead (Pb) | 0.60 | | |
| Mercury (Hg) | 0.10 | Reduced Sulfur Compounds (RSC) [$H_2S$] | 10 |
| MWC metals [measured as PM] | 15 | Total Reduced Sulfur (TRS) [$H_2S$] | 10 |
| | | $SO_2$ | 40 |
| | | Sulfuric Acid Mist (SAM) | 7 |
| | | Fluorides (F) | 3 |
| | | HCl | NA [4] |
| | | MWC acid gases [$SO_2$ + HCl] | 40 |
| | | | |
| | | MWC organics [dioxins/furans] | $3.5 \times 10^{-6}$ |
| | | | |

1. There is a federal SER of 75,000 tons/year for Greenhouse Gases (GHG) as carbon dioxide equivalent ($CO_2e$) that has not been incorporated into Department rules.
2. $PM_{2.5}$ is also regulated through precursors [NOx and $SO_2$].
3. Ozone ($O_3$) is regulated through precursors [VOC and NOx].
4. NA means not applicable.

## 3. APPLICANT REVIEW

### Background

The applicant applied on July 13, 2012, to the Department for a minor source air construction permit. The minor source air construction permit is for combustion of higher rates of non-MSW materials ("non-hazardous solid and liquid wastes"), waste (fuel slate) revisions and a miscellaneous revision at the existing municipal waste combustor facility.

### Waste (Fuel Slate) Requested Changes

In Appendix C to the permit application received on July 13, 2012, the applicant requested specific changes to the wastes (fuel slate) specific conditions in the current valid Title V air operation permit No. 0690046-010-AV. These specific conditions contain very specific types and descriptions of fuels/wastes allowed to be combusted in municipal solid waste combustor Unit Nos. 1 & 2.

Specifically, the applicant requested:

(1) the 5% restriction on non-MSW material received as segregated loads and burned (in Specific Conditions **A.5.**(g) & **A.42.**c.) to be deleted; and,

(2) to replace Specific Condition **A.5.**(h) with the ability to burn "non-hazardous solid and liquid waste."

In support of the requests, the applicant provided a copy of legislation effective in 2012, HB 503, an amendment to Section 403.707(1), F.S. which directs the Department to "*... allow waste-to-energy facilities to maximize acceptance and processing of nonhazardous solid and liquid waste*."

### Waste (Fuel Slate) Requested Change's Effect on Air Pollutant Emissions

The applicant provided stack test results from two similar MWC plants in the U.S. while combusting given quantities of "non-hazardous solid and liquid wastes" (segregated loads): 1. Walter B. Hall RRF in Tulsa, Oklahoma; and, 2. Huntsville Solid Waste-to-Energy Facility in Huntsville, Alabama. The stack testing was recently performed at the plants; the Tulsa and Huntsville plant stack testing dates ranged from 6/5-15/2012 and 6/13-15/2012, respectively. The quantity of "non-hazardous solid and liquid wastes" combusted during the stack testing at the Tulsa plant ranged from 7-12% and the quantity of "non-hazardous solid and liquid wastes" combusted during the stack testing at the Huntsville plant ranged from 13-18%.

The applicant indicated that the combustion of "non-hazardous solid and liquid waste" (segregated loads) in Unit Nos. 1 & 2 will not result in a "*discernible*" increase in air pollutant emissions. According to the applicant, the reason for no increase in air pollutant emissions from the combustion of "non-hazardous solid and liquid waste" (segregated loads) in Unit Nos. 1 & 2 was due to the similarity of the characteristics of the "non-hazardous solid and liquid waste" (segregated loads) and the traditional wastes/fuels they will replace.

To demonstrate that there will be no increase in air pollutant emissions from the combustion of higher quantities of "non-hazardous solid and liquid waste" (segregated loads) in MWC Unit Nos. 1 & 2, the applicant proposed to measure, track and report air pollutant emissions for up to 5 (five) years from completion of the project in accordance with Rule 62-212.300(1)(e), F.A.C.

## 4. DEPARTMENT REVIEW

This municipal solid waste combustor (MWC) plant was originally permitted in 1986 under Permit No. AC35-115379/PSD-FL-113. The Lake County Resource Recovery Facility (RRF) began commercial operation on August 22, 1990.

A typical mass burn, waste-to-energy facility process overview is posted and available on Covanta Energy's website.[1]

### Waste (Fuel Slate) Requested Changes

The applicant requested: (1) the 5% restriction on non-MSW material received as segregated loads and burned (in Specific Conditions **A.5.**(g) & **A.42.**c.) to be deleted; and, (2) to replace Specific Condition **A.5.**(h) with the ability to burn "non-hazardous solid and liquid waste." The waste (fuel slate) permit specific conditions originate from underlying AC/PSD permits. These permit specific conditions cannot be revised in the Title V air operation permit; the underlying AC/PSD permits must be revised.

### Waste (Fuel Slate) Requested Change's Effect on Air Pollutant Emissions

For the same reason as indicated by the applicant, the Department expects no increase in air pollutant emissions from the combustion of higher quantities of "non-hazardous solid and liquid waste" (segregated loads) in MWC Unit Nos. 1 & 2 due to the similarity of the characteristics of the "non-hazardous solid and liquid waste" (segregated loads) and the traditional wastes/fuels they will replace. Unit Nos. 1 & 2 are identical mass-burn municipal solid waste combustors.

Air pollutant emissions are well controlled at the Lake County RRF. Air pollutant emission control techniques, measures and devices on each unit include:

A selective non-catalytic reduction (SNCR) system for the control of NOx emissions;

Good combustion practices to minimize NOx, CO and VOC emissions;

A spray dryer absorber (SDA) system (scrubber) for the control of acid gas emissions;

An activated carbon injection (ACI) system for the control of Hg and dioxin/furan emissions; and,

A baghouse filter system for the control of particulate matter (PM) and mercury (Hg) emissions.

Air pollutant emissions from each unit are monitored by certified continuous emissions monitoring systems (CEMS) for the following air pollutants: $SO_2$, NOx & CO. Stack testing is performed for the following air pollutants: PM, Cd, Hg, Pb, HCl, dioxin/furan. Each unit is also equipped with a certified continuous opacity monitoring system (COMS) for visible emissions.

## Regulatory Review for Project - Restrictions on MSW

### MSW as Defined in Federal (U.S. EPA) Regulations - 40 CFR 60, Subpart Cb/Eb

Municipal solid waste or municipal-type solid waste or MSW is defined in the federal regulations - 40 Code of Federal Regulations (CFR) 60, Subpart Cb, Emissions Guidelines (EG) and Compliance Times for Large Municipal Waste Combustors (MWCs).

The Lake County RRF MWC units are 'existing' MWC units regulated under the EG 40 CFR 60, Subpart Cb. The federal regulations, 40 CFR 60, Subpart Cb (amended May 10, 2006), applicable to the Lake County RRF MWC units were adopted by reference in Rule 62-204.800(9)(b), Florida Administrative Code (F.A.C.), (Effective 12/01/2012) [2]. Of particular note is that the EG 40 CFR 60, Subpart Cb, cross references applicable requirements that are contained in the 40 CFR 60, Subpart Eb, New Source Performance Standards (NSPS) for Large Municipal Waste Combustors. 40 CFR 60, Subpart Eb (amended May 10, 2006) were adopted by reference in Rule 62-204.800(8)(b), F.A.C., (Effective 12/01/2012) [3]. Basically, the EGs 40 CFR 60, Subpart Cb apply to 'existing' MWC units while the NSPS 40 CFR 60, Subpart Eb apply to 'new' MWC units. The cross references contained within Subpart Cb to Subpart Eb do not impose the more stringent emission standards/limitations from Subpart Eb onto 'existing' MWC units.

***Emphasis was added throughout these definitions to highlight pieces pertinent to this request.***

### EG 40 CFR 60, Subpart Cb [4]

40 CFR 60.31b Definitions.

"Terms used but not defined in this subpart have the meaning given them in the Clean Air Act and ***subparts*** A, B, and ***Eb*** of this part. …"

### NSPS 40 CFR 60, Subpart Eb [5]

40 CFR 60.51b Definitions.

*"**Municipal solid waste*** or *municipal-type solid waste* or ***MSW*** means ***household***, ***commercial/retail***, and/or ***institutional*** waste. ***Household waste*** includes material discarded by single and multiple residential dwellings, hotels, motels, and other similar permanent or temporary housing establishments or facilities. ***Commercial/retail waste*** includes material discarded by stores, offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities. ***Institutional waste*** includes material discarded by schools, nonmedical waste discarded by hospitals, material discarded by nonmanufacturing activities at prisons and government facilities, and material discarded by other similar establishments or facilities. ***Household, commercial/retail, and institutional waste does not include used oil; sewage sludge; wood pallets; construction, renovation, and demolition wastes (which includes but is not limited to railroad ties and telephone poles); clean wood; industrial process or manufacturing wastes; medical waste; or motor vehicles (including motor vehicle parts or vehicle fluff).*** Household, commercial/retail, and institutional wastes include:

(1) Yard waste;

(2) Refuse-derived fuel; and

(3) Motor vehicle maintenance materials limited to vehicle batteries and tires except as specified in 40 CFR 60.50b(g).

***Municipal waste combustor***, *MWC*, or *municipal waste combustor unit:*

(1) Means any setting or equipment that combusts ***solid***, ***liquid***, or gasified municipal solid waste …"

## MSW as Defined in the Laws of the State Florida

Municipal solid waste (MSW) is defined in state law in Florida, in Section 403.706(5), Florida Statutes (F.S.) (as of 2012) [6].

***Emphasis was added throughout these definitions to highlight pieces pertinent to this request.***

### Section 403.706(5), F.S. [7]

403.706 Local government solid waste responsibilities.

"…

(5) As used in this section, "***municipal solid waste***" includes any solid waste, except for sludge, resulting from the operation of residential, commercial, governmental, or institutional establishments that would normally be collected, processed, and disposed of through a public or private solid waste management service. The term includes yard trash but does not include solid waste from industrial, mining, or agricultural operations.

…"

The following terms defined in state law in Florida, in Section 403.703, Florida Statutes (F.S.) (as of 2012) are relevant to the request.

### Section 403.703, F.S. [8]

403.703 Definitions.

"…

(13) "***Hazardous waste***" means solid waste, or a combination of solid wastes, which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or may pose a substantial present or potential hazard to human health or the environment when improperly transported, disposed of, stored, treated, or otherwise managed. The term does not include human remains that are disposed of by persons licensed under chapter 497.

…

(24) "***Recovered materials***" means metal, paper, glass, plastic, textile, or rubber materials that have known recycling potential, can be feasibly recycled, and have been diverted and source separated or have been removed from the solid waste stream for sale, use, or reuse as raw materials, whether or not the materials require subsequent processing or separation from each other, but the term does not include materials destined for any use that constitutes disposal. ***Recovered materials as described in this subsection are not solid waste***.

…

(32) "***Solid waste***" means sludge unregulated under the federal Clean Water Act or Clean Air Act, sludge from a waste treatment works, water supply treatment plant, or air pollution control facility, or garbage, rubbish, refuse, special waste, or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from domestic, industrial, commercial, mining, agricultural, or governmental operations. ***Recovered materials as defined in subsection (24) are not solid waste***.

…"

## MSW as Defined in the Rules of the State Florida

MSW is not specifically defined in the state air pollution rules, Rule 62-210 through 297, Florida Administrative Code (F.A.C.). However, the following terms defined in the state air pollution rules in Florida, Rule 62-210, F.A.C. (Effective 03/28/2012) are relevant to the request.

### Rule 62-210, F.A.C. [9]

Rule 62-210.200, F.A.C. Definitions.

"…

(289) "***Solid Waste***" - Includes garbage, refuse, yard trash, clean debris, white goods, special waste, ashes, sludge, or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from domestic, industrial, commercial, mining, agricultural, or governmental operations.

…

(336) "***Waste-to-Energy Facility***" - A facility that uses an enclosed device using controlled combustion to thermally break down ***solid***, ***liquid*** or ***gaseous*** combustible solid ***waste*** to an ash residue that contains little or no combustible material, and that produces electricity, steam, or other energy as a result. The term does not include facilities that primarily burn fuels other than solid waste, even if the facilities also burn some solid waste as a fuel supplement. The term also does not include facilities that burn vegetative, agricultural, or silvicultural wastes, bagasse, clean dry wood, methane or other landfill gas, wood fuel derived from construction or demolition debris, or waste tires, alone or in combination with fossil fuel. For the purposes of Rule 62-296.416, F.A.C., the term does not include facilities that primarily burn biohazardous or hazardous waste and industrial boilers that burn pelletized paper waste as a supplemental fuel.

…"

MSW is not specifically defined in the state solid waste rules, Rules 62-701 through 62-722, F.A.C. However, the following terms defined in the state solid waste rules in Florida, Rule 62-701, F.A.C. (Effective 08/12/2012) are relevant to the request.

### 62-701, F.A.C. [10]

62-701.200 Definitions.

"…

(47) "***Hazardous waste***" means a solid waste regulated by the Department as a hazardous waste pursuant to Chapter 62-730, F.A.C.

…

(95) "***Recovered materials***" means metal, paper, glass, plastic, textile, or rubber materials that have known recycling potential, can be feasibly recycled, and have been diverted and source separated or have been removed from the solid waste stream for sale, use, or reuse as raw materials, whether or not the materials require subsequent processing or separation from each other, but does not include materials destined for any use that constitutes disposal. Recovered materials as described above are not solid waste.

…

(107) "***Solid waste***" means: sludge that is not regulated under the federal Clean Water Act or Clean Air Act, as well as sludge from a waste treatment works, water supply treatment plant, or air pollution control facility; or garbage, rubbish, refuse, special waste, or other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from domestic, industrial, commercial, mining, agricultural, or governmental operations. Materials not regulated as solid waste pursuant to this chapter are: recovered materials; nuclear source or byproduct materials regulated under Chapter 404, F.S., or under the Federal Atomic Energy Act of 1954 as amended; suspended or dissolved materials in domestic sewage effluent or irrigation return flows, or other regulated point source discharges; regulated air emissions; and fluids or wastes associated with natural gas or crude oil exploration or production.

…"

**Federal (U.S. EPA) Regulations Applicability**

The combustion of solid waste is subject to Section 129, Solid Waste Combustion of the Clean Air Act (CAA). Section 129, Solid Waste Combustion of the CAA includes 40 CFR 60 Subparts Cb/Eb. The combustion of "non-hazardous solid and liquid waste" in MWC units is therefore regulated under 40 CFR 60, Subparts Cb/Eb. 40 CFR 60, Subparts Cb/Eb does not contain any new or additional applicable requirements for when the MWCs are combusting "non-hazardous solid and liquid waste."

The combustion of hazardous waste is subject to the new MACTs under 40 CFR 63. The combustion of "non-hazardous solid and liquid waste" in MWC units is therefore not subject to any of U.S. EPA's new MACTs under 40 CFR 63. [11]

**Regulatory Review for Project - Restrictions on MSW - Conclusions**

After reviewing the cited federal (U.S. EPA) regulations, the law & rules of the State of Florida, nothing specifically precludes the applicant's request to burn higher quantities of "non-hazardous solid and liquid waste" (segregated loads).

**Permitted Quantity of Non-MSW Materials ("Non-hazardous Solid and Liquid Wastes")/Segregated Loads**

The applicant indicated in its response dated October 23, 2012, that the upper limit for non-MSW material ("non-hazardous solid and liquid wastes")/segregated loads for the Lake County RRF MWC Unit Nos. 1 & 2 to be 20% considering the design of the units. The applicant's rationale for an upper limit of 20% for the Lake County RRF MWC Unit Nos. 1 & 2 was based on the Tulsa and the Huntsville MWC facilities routinely operating up to 20% of segregated loads "*without significant effects to the boilers and the air pollution control systems*."

The Lake County RRF MWC units are relatively similar to the Tulsa and Huntsville MWC units in size and in the air pollutant emission standards/limitations that are applicable. Each of the Lake County RRF MWC units are 288 tons per day (TPD) in size. The two (2) Tulsa MWC units (also known as the Walter B. Hall Resource Recovery Facility) are 375 TPD while the three (3) Huntsville MWC units (Huntsville Solid Waste to Energy Facility) are 345 TPD. The Tulsa and Huntsville MWC units are mass-burn Covanta/Martin GmbH arrangements just like the Lake County RRF MWC units. All of the MWC units (Lake, Tulsa and Huntsville) are existing MWCs regulated under the federal Emission Guidelines of 40 CFR 60, Subpart Cb. A cursory review indicates that the emission standards/limitations from the Tulsa and Huntsville MWC units are almost identical to the Lake County RRF MWC units' emission standards/limitations. Some of the MWC units (Lake, Tulsa and Huntsville) may have more stringent emission standards/limitations.

On November 2, 2012, the applicant provided annual compliance stack test results from the Tulsa and the Huntsville MWC facilities while burning segregated loads of up to 20%. The stack test results demonstrated compliance with 40 CFR 60, Subpart Cb emission standards/limits at up to 20% of segregated loads. Of note is that the concentration based stack test results, i.e., mg/dscm or ppm, for PM, HCl, Cd, Pb, Hg, NOx, CO, $SO_2$ & D/F were within the applicable concentration based emission standards/limitations for the Lake County RRF MWC Unit Nos. 1 & 2 (these units were subject to a BACT determination). In conclusion, the Tulsa and the Huntsville MWC facility test results provide reasonable assurances of compliance with the applicable concentration based emission standards/limitations by the Lake County RRF MWC Unit Nos. 1 & 2 at segregated loads of up to 20%.

Given that similar MWC units demonstrated compliance with the emission standards/limitations applicable to the Lake County RRF MWC Unit Nos. 1 & 2, that no significant effects to the boilers and the air pollution control systems at the similar MWC units were observed and that the upper limit on the units is 20% considering the design of the units, an upper limit (maximum) of 20% of segregated loads is deemed appropriate for the Lake County RRF MWC Unit Nos. 1 & 2. At quantities above 20% of segregated loads, the Department does not have reasonable assurances of compliance by MWC units with applicable air pollutant emission/standards.

**Permit Requirements**

None of the ten (10) municipal waste combustor facilities in the State of Florida currently accept and combust up to 20% of non-MSW material ("non-hazardous solid and liquid wastes"). The Title V air operation permits for the 10 MWC plants in Florida contain similar "fuel slate" (waste) language for statewide consistency. For consistency among the MWC plants the Lake County RRF "fuel slate" (waste) language was edited slightly.

The "fuel slate" language in the Lake County RRF current, valid Title V air operation permit contains a prohibition to burn hazardous waste (see Specific Condition **A.5.**b.(1)(c)). The burning of hazardous waste is regulated by other federal regulations. The applicant indicated in its response dated October 23, 2012 that they screen wastes at the plant under a standard operating procedure. As in previous permitting actions and for this permitting action, in order to provide the Department continued reasonable assurances that a "non-hazardous solid and liquid waste" (non-MSW material) received as a segregated load is not a hazardous waste the owner/operator is required by the permit to screen each material and to keep a record of such characterization at the plant.

Initial compliance demonstration (testing) at higher non-MSW material ("non-hazardous solid and liquid waste") quantities is specified in the permit to provide the Department reasonable assurances that the existing emission standards & limits are complied with by the Lake County RRF MWC Unit Nos. 1 & 2.

**PSD Applicability for Project**

Rule 210.200(252)(d), *Projected Actual Emissions*, F.A.C. (Effective 03/28/2012) allows the use of potential to emit (permitted emissions) to be used as the projected actual emissions. On December 17, 2012, the applicant proposed to establish projected actual emissions based on potential to emit (permitted emissions). As allowed by rule, the Department accepts the applicant's proposed use of permitted emissions (potential to emit) as projected actual emissions.

Based on what the applicant has provided, there are no expected significant emission rate increases from the proposed project. The project therefore is not subject to PSD preconstruction review, avoiding PSD BACT.

The air construction permit application for the project to avoid PSD BACT was based in whole or in part on projected actual emissions. Except for mercury (Hg), the baseline actual emissions and the projected actual emissions from the *existing* MWC Unit Nos. 1 & 2 were provided by the applicant.

**Baseline Actual Emissions vs. Projected Actual Emissions Used under this Project**

| PSD-(Air) Pollutant | Baseline Actual Emissions, TPY (tons/year) | Projected Actual Emissions, TPY | Increase in Emissions, TPY | PSD SER, TPY | PSD SER exceeded? |
|---|---|---|---|---|---|
| PM | 6.53 | 31.43 | 24.9 | 25 | No |
| $PM_{10}$ | 6.53 | 21.43 | 14.9 | 15 | No |
| Pb | 0.0220 | 0.612 | 0.59 | 0.60 | No |
| Hg | 0.00989 [1] | 0.09989 [1] | 0.090 | 0.10 | No |
| NOx | 393 | 432.9 | 39.9 | 40 | No |
| CO | 28.2 | 128.1 | 99.9 | 100 | No |
| VOC | 1.68 | 41.58 | 39.9 | 40 | No |
| $SO_2$ | 6.05 | 45.95 | 39.9 | 40 | No |
| MWC acid gases [$SO_2$ + HCl] | 31.1 | 71.0 | 39.9 | 40 | No |
| MWC organics [dioxins/furans] | NA [2] | NA | NA | $3.5 \times 10^{-6}$ | - |

[1] Calculated by the Department based on reported AOR data.
[2] "NA" means not available.

Since the units are already equipped with CEMS for $SO_2$, NOx & CO, changes to these individual air pollutant emissions when burning higher quantities of non-MSW materials ("non-hazardous solid and liquid wastes") can be easily evaluated for initial compliance demonstration and that PSD is avoided.

Since the units routinely perform stack tests for the following air pollutants: PM, Cd, Hg, Pb, HCl, dioxin/furan, changes to these individual air pollutant emissions when burning higher quantities of non-MSW materials ("non-hazardous solid and liquid wastes") can also be easily evaluated for initial compliance demonstration and that PSD is avoided.

Air pollutant emissions can be measured and tracked to determine whether or not there were in fact any net emission increases resulting from this project. Specific requirements to measure, track and report air pollutant emissions of concern associated with this project are placed in the AC permit.

Based on what the applicant has provided and based on the permit processor's review of other similar air permitted projects, there are no expected significant emission rate increases from the proposed project. The project therefore is not subject to PSD preconstruction review.

## 5. PRELIMINARY DETERMINATION

The Lake County RRF will be the first MWC in the state of Florida permitted to burn higher quantities of non-MSW material ("non-hazardous solid and liquid wastes") up to 20% of the incoming MSW/fuel stream. The Lake County RRF, with MWC Unit Nos. 1 & 2 which commenced operations in 1990, have advanced air pollution control technology and monitor air pollutant emissions on a frequent basis using CEMS, COMS and stack testing. The MWC Unit Nos. 1 & 2 are identical. Testing from one of the MWC units is therefore adequate and representative of air pollutant emissions when burning higher quantities of non-MSW material ("non-hazardous solid and liquid wastes").

The affects on air pollutant emissions while burning higher quantities of non-MSW material ("non-hazardous solid and liquid wastes") are not known for these units. Actual air emissions testing while burning higher quantities of non-MSW material ("non-hazardous solid and liquid wastes") can demonstrate initial compliance with the existing air emission standards and limits. Actual air emission rates from testing will also be able to confirm that emissions are below the PSD SERs applicable to the project.

The Department makes a preliminary determination that the proposed project will comply with all applicable state rules 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 permit processor 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.

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