Florida Department of Environmental Protection

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PERMITTEE

Lee County Department of Solid Waste Management
Lee County Resource Recovery Facility

Final Permit No. 0710119-008-AC/PSD-FL-151E
Air Construction Permit Revision -
Miscellaneous Revisions

Lee County, Florida

Authorized Representative:
Mr. Lindsay J. Sampson, Director

PROJECT

This is the final air construction permit, which revises Permit Nos. PSD-FL-151, A and B (Units 1 and 2) and 0710119-005-AC/PSD-FL-151D (Unit 3). The revisions are made to miscellaneous PSD/air construction permit conditions. This facility is an existing municipal waste combustor plant categorized under Standard Industrial Classification No. 4953. This 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 final permit is organized into the following sections: Section 1 (General Information) and Section 2 (Permit Revisions). As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is <u>not</u> subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality. A copy of this permit modification shall be filed with the referenced permit and shall become part of the permit.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida
Electronic Signature

Office of Permitting and Compliance
Division of Air Resource Management
Department of Environmental Protection
Tallahassee, Florida

Jeffery F. Koerner
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CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit Revision) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Mr. Lindsay J. Sampson, Director, Lee County DSWM: sampsolj@leegov.com
Mr. Jason M. Gorrie, P.E., Covanta: jgorrie@covantaenergy.com
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Ms. Barbara Friday, DEP OPC: barbara.friday@dep.state.fl.us (for posting with U.S. EPA, Region 4)
Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us (for reading file)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.
Electronic Signature

Lynn Scearce
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FACILITY DESCRIPTION

This existing facility consists of: three municipal solid waste combustors (Unit Nos. 1, 2 and 3) with auxiliary burners; lime storage and processing facilities; ash storage and processing facilities; a metals recovery system; cooling towers; and, ancillary support equipment. The total capacity of the Lee County Resource Recovery Facility is 1,980 tons/day (TPD) of municipal solid waste fuel with a nominal higher heating value (HHV) of 5,000 Btu/lb. The gross nominal electric generating capacity of the facility is 60 megawatts (MW).

The facility is owned by Lee County and is currently operated by Covanta Lee, Inc.

Also located at the facility are miscellaneous unregulated/insignificant emissions units and/or activities.

FACILITY REGULATORY CLASSIFICATION

- This 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 (CAA).
- 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 (PSD), F.A.C.

PROPOSED PROJECT

As part of the project for the Title V air operation permit renewal (Project No. 0710119-007-AV), the applicant requested a concurrent air construction permit revision to change several underlying air construction permit conditions found in PSD permits.

Requested Changes to PSD/air construction permits dated and received from Lee County on July 22, 2011.

The following permit conditions and emissions unit description are revised as indicated. ~~Strikethrough~~ is used to denote the deletion of text. Double-underlines are used to denote the addition of text. All changes are emphasized with yellow highlight in the electronic document.

This facility has MWC (municipal waste combustor) type emissions units that are subject to the emission standards and limitations under the May 10, 2006 federal amendments to the 40 CFR 60 Subparts Cb/Eb.

1st Permit Being Modified: PSD-FL-151, A and B
Affected Emissions Units: Municipal Waste Combustor Units 1 & 2 (E.U. ID Nos. 001 & 002)

The affected specific conditions from PSD-FL-151, A and B are hereby changed as follows (the remainder of the permit remains unchanged as a result of this permitting action):

Specific Condition 2.

The emission standards and limits contained in Specific Condition 2. for Municipal Waste Combustor Units 1 & 2 are replaced in their entirety with the following table:

2. Air pollutant emissions from each MWC unit shall not exceed the following emission standards and limits using the specified test methods and procedures:

Pollutant	**Emission Standard/Limit [1]**	**lbs/hour [2]**	**Comparison Result [3]**
Nitrogen Oxides (NOx)	180 ppmvd - 24-hour daily arithmetic average	80	Subpart Cb = BACT
Carbon Monoxide (CO)	100 ppmvd - 4-hour block average	27.2	Subpart Cb = BACT
Sulfur Dioxide (SO_2)	29 ppmvd - 24-hour daily geometric average or 80% reduction by weight or volume [4, +]	41	Subpart Cb < BACT
Sulfuric Acid Mist (SAM)	9.85 lbs/hour	9.85	BACT solely {SO_2}
MWC Acid Gas (Hydrogen Chloride (HCl)) [5]	25 ppmvd or 95% reduction by weight or volume [4, *]	17.70	BACT < Subpart Cb
MWC Metals (Particulate Matter (PM))	22.9 mg/dscm [*]	5.34	BACT < Subpart Cb
PM_{10}	22.9 mg/dscm [*]	5.34	BACT < Subpart Cb
Lead (Pb)	400 µg/dscm [+]	0.165	Subpart Cb < BACT
Mercury (Hg)	50 µg/dscm or 85% reduction by weight [4, +]	0.0271	Subpart Cb < BACT
Dioxins/Furans (D/F) [6]	30 ng/dscm	7.0×10^{-6}	Subpart Cb = BACT
Opacity (Visible Emissions (VE))	10% - 6-minute average	N/A [7]	Subpart Cb = BACT
Ammonia Slip	50 ppmvd	N/A [7]	BACT solely {PM, Opacity}

[1] All concentration values are corrected to 7% O_2: µg/dscm = micrograms per dry standard cubic meter; mg/dscm = milligrams per dry standard cubic meter; ng/dscm = nanograms per dry standard cubic meter; and, ppmvd = parts per million volume dry. The value(s) listed is/are the most stringent emission standard(s)/limit(s).
[2] Mass emission limits in "lbs/hour" were based on a steam production limit of 186,200 lb steam/hr for each MWC and were from the original PSD-FL-151, A& B permit and BACT determination.
[3] The May 10, 2006 Cb limit(s) compared to the original PSD or BACT limit(s) is shown as the "Comparison Result." (See the Technical Evaluation & Preliminary Determination.)
[4] Whichever standard is less stringent.
[5] HCl is not a BACT pollutant. However, it must be limited together with SO_2 because they both comprise MWC-Acid Gases which has its own PSD threshold.
[6] Dioxins/Furans: Total tetra through octa-chlorinated dibenzo-p-dioxins and dibenzofurans.
[7] N/A = not applicable.
[*] Compliance with the BACT standard/limit assures compliance with the Cb standard/limit.
[+] Compliance with the Cb standard/limit assures compliance with the BACT standard/limit.

Specific Condition 3.a.

The applicant is authorized to relocate the vent to the lime storage silo baghouse such that it vents internally to the building where it is located.

The applicant is authorized to relocate the vent to the ash handling baghouse such that it vents internally to the ash building.

The test methods & procedures and requirements within Specific Condition 3.a. are replaced in their entirety with the following:

3.a. Test Methods & Procedures and Requirements: Compliance with the emission standards and limitations of Specific Condition No. 2. shall be demonstrated in accordance with the following test methods & procedures and requirements:

EPA Method(s)	**Description of Method(s) and Comment(s)**
1 - 4	Determination of Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content. Methods shall be performed as necessary to support other methods.
5	Determination of PM Emissions. The minimum sample volume shall be 1.7 cubic meters.
6, 6C or 19	Determination of SO_2 Emissions (6C is Instrumental).
7, 7C, 7E or 19	Determination of NOx Emissions (7E is Instrumental).
8	Determination of SAM Emissions
9	Visual Determination of Opacity (VE)
10	Measurement of CO Emissions (Instrumental). The method shall be based on a continuous sampling train.
22	Visual Determination of Fugitive Emissions from Material Sources.
23	Measurement of D/F Emissions.
26 or 26A	Determination of HCl Emissions.
Conditional Test Method (CTM)-027	Procedure for Collection and Analysis of Ammonia. *{Note: This is an EPA conditional test method. The minimum detection limit shall be 1 ppm.}*
29	Determination of Metals (e.g., Hg, Cd, Pb) Emissions.
201 or 201A	Determination of PM_{10} Emissions.

Method CTM-027 is published on EPA's Technology Transfer Network web site at http://www.epa.gov/ttn/emc/ctm.html. The other methods are specified in NSPS 40 CFR 60, Appendix A - Reference Methods adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. Tests shall be conducted in accordance with the appropriate test method and the applicable requirements specified in this permit, and NSPS 40 CFR 60, Subpart A. [Rules 62-204.800, F.A.C. and 40 CFR 60, Appendix A]

SAM Testing. Demonstration of compliance with the SO_2 emission limit shall be used as a surrogate for determining compliance with the SAM emission limit. If the Department has reason to believe that the SAM limit is not being met, it may require a special compliance test to be performed in accordance with Rule 62-297.310(7)(b), F.A.C.

Compliance Testing Conditions. The weight of MSW being fed to each combustor during the stack test shall be continuously monitored and recorded by a weighing device which is properly calibrated. Stack

tests shall be conducted upstream and downstream of the applicable control device for SO_2, Hg and HCl. Soot blowers shall be operated in a mode consistent with the normal cleaning requirements of the system during the compliance testing.

VE Testing Conditions. At least one one-hour VE test shall be conducted simultaneously with particulate matter testing for the emissions from the dry scrubber/baghouse. At least one 30-minute VE test shall be conducted for the ash handling building.

Test Protocol. A test protocol shall be submitted for approval to the Department's (DEP) South District (SD) Office and to the Office of Permitting & Compliance in Tallahassee at least 30 (thirty) days prior to testing.

Specific Condition 3.c.

The test frequencies requirements within Specific Condition 3.c. are replaced in their entirety with the following:

3.c. Testing Frequency Compliance with the emission limitations of specific condition 2. of this permit shall be determined by annual emissions testing, except that testing for ammonia shall be performed prior to renewal. Testing of the MWC units for particulate matter emissions shall be performed using three one-hour test runs so that two one-hour runs are conducted during normal operation and one one-hour run is conducted during soot blowing conditions.

Specific Condition 3.e.(iii)

3.e. Record Keeping … ~~(iii) the amount of propane gas burned per unit,~~ …

Specific Condition 4.d.

The language referring to a 10% capacity factor for natural gas as an auxiliary fuel is deleted.

4.d. … ~~If the annual capacity factor for natural gas is greater than 10%, as determined by 40 CFR 60.41b, the facility shall be subject to 40 CFR 60.44b(d), Standards for Nitrogen Oxides.~~

Specific Condition 4.k.

This specific condition, containing a combustion efficiency requirement, is deleted.

~~4.k. Combustion efficiency shall be calculated by: % CE = (1/(1+(CO/CO2))) x 100, and shall be at least 99.5% for an 8 hour average.~~

2nd Permit Being Modified: Permit No. 0710119-005-AC/PSD-FL-151D
Affected Emissions Units: Municipal Waste Combustor Unit 3 (E.U. ID No. 006)

The affected specific conditions from Permit No. 0710119-005-AC/PSD-FL-151D are hereby changed as follows (the remainder of the permit remains unchanged as a result of this permitting action):

Specific Condition III.B.8.

The emission standards and limits contained in Specific Condition III.B.8. for Municipal Waste Combustor Unit 3 are replaced in their entirety with the following table:

III.B.8. Air pollutant emissions from the MWC unit shall not exceed the following emission standards and limits using the specified test methods and procedures:

Pollutant	**Emission Standard/Limit [1]**	**lbs/hour [2]**	**Comparison Result [3]**
Nitrogen Oxides (NOx)	150 ppmvd - 24-hour daily arithmetic average [*] 110 ppmvd - 12-month rolling average [*]	70.8	BACT < Subpart Eb
Carbon Monoxide (CO)	100 ppmvd - 4-hour block average [*] 80 ppmvd - 12-month rolling average [*]	28.73	BACT < Subpart Eb
Sulfur Dioxide (SO_2)	26 ppmvd - 24-hour daily geometric average or 80% reduction by weight or volume [4, *]	56.9	BACT < Subpart Eb
Sulfuric Acid Mist (SAM)	15 ppmvd	15.1	BACT solely
MWC Acid Gas (Hydrogen Chloride (HCl)) [5]	25 ppmvd or 95% reduction by weight or volume [4]	46.76	Subpart Eb = BACT
MWC Metals (Particulate Matter (PM))	20.6 mg/dscm [*]	5.12	BACT < Subpart Eb
PM_{10}	20.6 mg/dscm [*]	5.12	BACT < Subpart Eb
Lead (Pb)	200 µg/dscm	0.05	Subpart Eb = BACT
Mercury (Hg)	28 µg/dscm or 85% reduction by weight [4, *]	0.0168	BACT < Subpart Eb
Cadmium (Cd)	20 µg/dscm	5×10^{-3}	Subpart Eb = PSD
Dioxins/Furans (D/F) [6]	13 ng/dscm	3.2×10^{-6}	Subpart Eb = BACT
Opacity (Visible Emissions (VE))	10% - 6-minute average	N/A [7]	Subpart Eb = BACT
Ammonia Slip	30 ppmvd [8]	N/A [7]	BACT solely {PM, Opacity}

[1] All concentration values are corrected to 7% O_2: µg/dscm = micrograms per dry standard cubic meter; mg/dscm = milligrams per dry standard cubic meter; ng/dscm = nanograms per dry standard cubic meter; and, ppmvd = parts per million volume dry. The value(s) listed is/are the most stringent emission standard(s)/limit(s).
[2] Mass emission limits in "lbs/hour" were based on a steam production limit of 197,400 lb steam/hr for each MWC and were from the original PSD-FL-151C permit and BACT determination.
[3] The May 10, 2006 Eb limit(s) compared to the original PSD or BACT limit(s) is shown as the "Comparison Result." (See the Technical Evaluation & Preliminary Determination.)
[4] Whichever standard is less stringent.
[5] HCl is not a BACT pollutant. However, it must be limited together with SO_2 because they both comprise MWC-Acid Gases which has its own PSD threshold.
[6] Dioxins/Furans: Total tetra through octa-chlorinated dibenzo-p-dioxins and dibenzofurans.
[7] N/A = not applicable.
[8] the design standard was 15 ppmvd.
[*] Compliance with the BACT standard/limit assures compliance with the Eb standard/limit.

Specific Condition III.B.10.

The test methods and procedures contained in the second paragraph of Specific Condition III.B.10. are replaced in their entirety with the following table:

III.B.10.

…

Test Methods and Procedures: Compliance with the emission standards and limitations for the other pollutants listed in Specific Condition No. III.B.8. shall be demonstrated annually (unless otherwise specified) and in accordance with the following test methods and procedures:

EPA Method(s)	Description of Method(s) and Comment(s)
1 - 4	Determination of Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content. Methods shall be performed as necessary to support other methods.
5 (1)	Determination of PM Emissions. The minimum sample volume shall be 1.7 cubic meters.
6, 6C or 19	Determination of SO_2 Emissions (6C is Instrumental).
7, 7C, 7E or 19	Determination of NOx Emissions (7E is Instrumental).
8	Determination of SAM Emissions
9	Visual Determination of Opacity (VE)
10	Measurement of CO Emissions (Instrumental). The method shall be based on a continuous sampling train.
22	Visual Determination of Fugitive Emissions from Material Sources.
23 (2)	Measurement of D/F Emissions.
26 or 26A (3)	Determination of HCl Emissions.
Conditional Test Method (CTM)-027 (5)	Procedure for Collection and Analysis of Ammonia. *{Note: This is an EPA conditional test method. The minimum detection limit shall be 1 ppm.}*
29 (3)	Determination of Metals (e.g., Hg, Cd, Pb) Emissions.
201 or 201A	Determination of PM_{10} Emissions.

Method CTM-027 is published on EPA's Technology Transfer Network web site at http://www.epa.gov/ttn/emc/ctm.html. The other methods are specified in NSPS 40 CFR 60, Appendix A - Reference Methods adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. Tests shall be conducted in accordance with the appropriate test method and the applicable requirements specified in this permit, and NSPS 40 CFR 60, Subpart A. [Rules 62-204.800, F.A.C. and 40 CFR 60, Appendix A]

SAM Testing. Demonstration of compliance with the SO_2 emission limit shall be used as a surrogate for determining compliance with the SAM emission limit. If the Department has reason to believe that the SAM limit is not being met, it may require a special compliance test to be performed in accordance with Rule 62-297.310(7)(b), F.A.C.

…

Specific Condition III.C.1(a) & (b) and III.C.3.

These specific conditions, containing emission standards & limits (PM and VE) and corresponding testing requirements for a lime storage silo and a carbon storage silo, are deleted.

III.C.1 ~~Lime & Carbon Silos and~~ Ash Handling System:

Particulate emissions from these emissions units shall be limited as follows:

~~(a) PM emissions from the lime storage silo shall be controlled by a baghouse. Visible emissions shall not exceed 5% opacity in accordance with specific condition C.3.~~

~~(b) PM emissions from the activated carbon storage silo exhaust shall be controlled by a baghouse. Visible emissions shall not exceed 5% opacity in accordance with specific condition C.3~~

…

~~III.C.3. Carbon and Lime Storage Silos PM Compliance Requirements: Compliance testing for the lime and carbon silos shall be conducted within 180 days of completion of construction and initial operation and annually thereafter. The visible emission tests shall be performed for each silo during filling operations using EPA Method 9. Permanent stack testing facilities are not required for the lime and carbon silos. The owner or operator may install temporary stack sampling facilities to conduct such a test, if required. [Rule 62-297.620(4), F.A.C.]~~