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SECRETARY

PERMITTEE

Wheelabrator North Broward, Inc.
North Broward Waste-to-Energy Facility

Authorized Representative:
Mr. Jim Epsilantis, Plant Manager

Permit No. 0112120-017-AC/PSD-FL-112E
Permit Expires: March 31, 2019
Air Construction Permit

Project: Biosolids & Landfill Gas Combustion in Municipal Waste Combustor Unit Nos. 1, 2 & 3 and Waste (Fuel Slate) Revisions
Broward County, Florida

PROJECT

This is the final air construction permit, which authorizes the combustion of biosolids & landfill gas in Municipal Waste Combustor Unit Nos. 1, 2 & 3 and waste (fuel slate) revisions at the existing municipal waste combustor facility (Project). This facility is an existing municipal waste combustor facility categorized under Standard Industrial Classification No. 4953. The existing North Broward Waste-to-Energy Facility is located in Broward County at 2600 NW 48th Street, Pompano Beach, in Broward County. Universal Transverse Mercator (UTM) Coordinates are: Zone 17, 583.541 kilometers (km) East and 2907.498 km North. Latitude is: 26° 17' 12" North and Longitude: 80° 09' 48" West.
This final permit is organized into the following sections: Section I (General Information), Section II (Requirements) and Section III (Emission(s) Unit(s) Specific Conditions); and, Section IV (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section IV of this permit. 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 not 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
For the Division of Air Resource Management

David L. Read, P.E.
2014.04.15
14:28:22 -04'00'

for: Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

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) 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 persons listed below.

Mr. Jim Epsilantis, North Broward: jepsilantis@wm.com
Mr. Chuck Faller, North Broward: cfaller@wm.com
Mr. Kennard F. Kosky, P.E., Golder Associates: kkosky@golder.com
Mr. Loranzo Fernandez, Broward County: lfernandez@broward.org
Ms. Heather Ceron, U.S. EPA Region 4: ceron.heather@epa.gov
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Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us

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.

Lynn Scearce

2014.04.15
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FACILITY DESCRIPTION

This existing facility consists of three municipal solid waste combustors (E.U. ID Nos. 001, 002 and 003) with auxiliary burners, lime storage and processing facilities, ash storage and processing facilities, a cooling tower and ancillary support equipment. The nominal (i.e., generator nameplate) electric generating capacity of the facility is 67.6 megawatts (MW), which is sold to the local utility company. Each of the combustor units at the facility includes an acid gas, air toxics, and particulate matter emissions control system consisting of a lime spray dryer and baghouse. Nitrogen oxide emissions are controlled by a urea injection system that operates under the principle of selective non-catalytic reduction (SNCR). There is a metals recovery system which is a potential source of fugitive emissions.

Also included in this permit are miscellaneous insignificant emissions units and/or activities.

This project will affect the following *existing* permitted emissions units:

E.U. ID No.	Brief Description
001	807 tons per day (TPD) (maximum) Municipal Waste Combustor and Auxiliary Burners - Unit 001
002	807 TPD (maximum) Municipal Waste Combustor and Auxiliary Burners - Unit 002
003	807 TPD (maximum) Municipal Waste Combustor and Auxiliary Burners - Unit 003

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

This project is for a minor source air construction permit. The minor source air construction permit is for the combustion of biosolids & landfill gas in Municipal Waste Combustor Unit Nos. 1, 2 & 3 and waste (fuel slate) revisions at the existing municipal waste combustor facility.

The applicant requested the authorization to combust “biosolids” (treated sewage sludge) formerly known as “domestic wastewater residuals” in the Department’s domestic wastewater treatment rule, Chapter 62-640, F.A.C. The applicant requested to combust biosolids (includes Class B, A and AA biosolids) that are not liquid biosolids.

The MWC Unit Nos. 1-3 have a total charging rate (short-term) of 2,420 TPD of municipal solid waste (MSW). The applicant requested a maximum of up to 15% biosolids on an as received (i.e., wet) basis to be combusted in the MWC units. This is equivalent to a maximum mass of 363 tons per day (TPD) facility-wide.

Specifically, this permit authorizes the following subprojects comprising the “project:”

1. Combustion of biosolids & landfill gas in Municipal Waste Combustor Unit Nos. 1, 2 & 3; and,
2. Waste (fuel slate) revisions.

This air construction permit was issued for the project to avoid the PSD BACT requirements of Rule 62-212.400(4) through (12), F.A.C., based in whole or in part on projected actual emissions. The projected actual emissions are shown in the table below. The baseline actual emissions and the projected actual emissions for the *existing* MWC Unit Nos. 1, 2 & 3 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 (+)/Decrease (-) in Emissions, TPY	PSD SER, TPY	PSD SER exceeded?
PM	6.05	11.7	+6	25	No
PM_{10}	6.05	11.7	+6	15	No
$PM_{2.5}$	6.05	11.7	+6	10	No
Pb	0.03	0.0372	+0.009	0.60	No
Hg	0.04	0.0379	-0.001	0.10	No
F	0.34	0.296	-0.044	3	No
NOx	1,370.24	1,177.8	-192	40	No
CO	93.39	86.6	-7	100	No
VOC	11.52	14.2	+3	40	No
SO_2	161.16	188.5	+27	40	No
SAM	24.68	26.2	+1	7	No
MWC acid gases [SO_2 + HCl]	237.61	256.4	+18.8	40	No
MWC organics [dioxins/furans]	1.50E-05	1.52E-05	+1.97E-07	3.5E-06	No
Total GHGs (CO_2e)	744,729.8	787,444.9	+42,715.0	75,000	No

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for Air Construction Permit received on February 12, 2014.

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance, Division of Air Resource Management, Florida Department of Environmental Protection (Department). The mailing address for the Office of Permitting and Compliance is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.

2. Compliance Authority: All documents related to compliance activities, such as reports, tests, and notifications, shall be submitted to the Air Resource Section of the Department's Southeast District Office (Compliance Authority) at 400 North Congress Avenue, Suite 200, West Palm Beach, Florida 33401; Telephone: (561) 681-6600, Fax: (561) 681-6755.

3. Appendices: The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); Appendix C (Common Conditions); Appendix D (Common Testing Requirements); Appendix E (40 CFR 61 Subpart A, NESHAP General Provisions); and, Appendix F (40 CFR 61 Subpart E, NESHAP for Mercury).

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and, Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 & 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. Construction and Expiration: The Department may extend the expiration date upon a satisfactory showing that an extension is justified. For good cause, the permittee may request that this air construction permit be extended. Such a request shall be submitted to the Department's Office of Permitting and Compliance at least sixty (60) days prior to the expiration of this permit. [Rules 62-4.070(4), 62-4.080, 62-210.300(1), and 62-212.400(6)(b), F.A.C.]

6. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

7. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) & 62-212.300(1)(a), F.A.C.]

8. Source Obligation: At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification. [Rule 62-212.400(12), F.A.C.]

5-YEAR EMISSIONS MONITORING

9. 5-Year Emissions Monitoring - PSD Avoidance Requirements:
   a. Monitoring. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change. The change (proposed project under Permit No. 0112120-017-AC/PSD-FL-112E) shall not increase the design capacity of any

emissions unit or its potential to emit that PSD pollutant. Emissions shall be computed in accordance with Rule 62-210.370, F.A.C.

- The Department identified the following PSD pollutants that could increase from this project: **SO_2, NOx, CO, PM [PM, PM_{10} & $PM_{2.5}$] and HCl**.
- The permittee shall use the same calculation methodology for emissions before and after the completed project under Permit No. 0112120-017-AC/PSD-FL-112E. In summary, the CEMS shall be used for emissions of **SO_2, NOx** & **CO** and stack testing shall be used for emissions of **PM [PM, PM_{10} & $PM_{2.5}$] and HCl**.

[Rule 62-212.300(1)(e)1., F.A.C.; and, Applicant Request.]

b. Reporting. The permittee shall report to the Department by March 1st based on the records required to be generated under subparagraph 62-212.300(1)(e)1., F.A.C., setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:

(1) The name, address and telephone number of the owner or operator of the major stationary source;

(2) The specific dates for commencement of the project and completion of the project;

(3) The annual emissions as calculated pursuant to subparagraph 62-212.300(1)(e)1., F.A.C.;

(4) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference;

(5) Any other information that the owner or operator wishes to include in the report;

(6) The baseline actual emissions to which the annual emissions were compared to; and,

(7) For the Department identified PSD pollutants: a statement indicating whether or not the applicable PSD significant emission rates (SERs) defined in Rule 62-210.200, F.A.C., were exceeded. If and when a PSD SER is exceeded, the permittee shall submit a PSD permit application with a BACT analysis or if the permittee determines that a PSD permit application with a BACT analysis is not required, the permittee shall provide specific citations as to why the project is exempt from a PSD permit application with a BACT analysis.

[Rule 62-212.300(1)(e)2., F.A.C.; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

c. Recordkeeping. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1. and 2., F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

[Rule 62-212.300(1)(e)3., F.A.C.]

d. Source Obligation. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12)(c), F.A.C.]

This subsection of the permit addresses the following emissions units:

E.U. ID No.	Brief Description
001	807 tons per day (TPD) (maximum) Municipal Waste Combustor and Auxiliary Burners - Unit 001
002	807 TPD (maximum) Municipal Waste Combustor and Auxiliary Burners - Unit 002
003	807 TPD (maximum) Municipal Waste Combustor and Auxiliary Burners - Unit 003

This subsection of the permit is for the combustion of biosolids in MWC Unit Nos. 1, 2 & 3.

The original Permit No. PSD-FL-112 (1987) authorized the construction of municipal solid waste combustor Unit Nos. 1, 2 & 3. The PSD permit specifically prohibited the use of sewage sludge as an allowable fuel. This permit removes the prohibition from the PSD permit and authorizes the combustion of biosolids that are not liquid biosolids in municipal solid waste combustor Unit Nos. 1, 2 and 3 as an allowable non-MSW fuel received as a segregated material.

Biosolids from the domestic wastewater treatment plants in the south Florida municipal area are planned to be combusted in municipal solid waste combustor Unit Nos. 1, 2 and 3.

No new equipment associated with this part of the project (biosolids) is authorized under this permit.

PREVIOUS APPLICABLE REQUIREMENTS

1. Effect on Other Permits: The conditions of this permit supplement all previously issued air construction and operation permits for these emissions units. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions and regulations. [Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

AUTHORIZATION TO COMBUST BIOSOLIDS

2. Authorization to Combust Biosolids: The owner or operator is authorized to combust biosolids (includes Class B, A and AA biosolids) that are not liquid biosolids in municipal solid waste combustor Unit Nos. 1, 2 and 3 as an allowable non-MSW fuel received as a segregated material. Biosolids are not part of the non-MSW (municipal solid waste) materials ("non-hazardous solid and liquid wastes") that were authorized under Permit No. 0112120-015-AC/PSD-FL-112D, increasing non-MSW from 5% to 20%. "**Biosolids**" and "**liquid biosolids**" under this permit are specifically described in Rule 62-640.200(6)&(28), F.A.C. and are defined as follows:

   62-640.200 Definitions.

   "**Biosolids**" means the solid, semisolid, or liquid residue generated during the treatment of domestic wastewater in a domestic wastewater treatment facility, formerly known as "domestic wastewater residuals" or "residuals." Not included is the treated effluent or reclaimed water from a domestic wastewater treatment plant. Also not included are solids removed from pump stations and lift stations, screenings and grit removed from the preliminary treatment components of domestic wastewater treatment facilities, other solids as defined in subsection 62-640.200(31), F.A.C., and ash generated during the incineration of biosolids. Biosolids include products and treated material from biosolids treatment facilities and septage management facilities regulated by the Department.

   "**Liquid biosolids**" means any biosolids that are less than 12% solids by weight, or that are determined to contain free liquids as defined by Method 9095B (Paint Filter Liquids Test), November 2004, as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846), January 3, 2008, 73 FR 486, which is hereby adopted and incorporated by reference and is available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices.

   "Liquid biosolids" as defined in Rule 640.200, F.A.C., shall not be unloaded onto the tipping floor or combusted in the municipal solid waste combustor Unit Nos. 1, 2 and 3.

[Application No. 0112120-017-AC; Rule 62-210.200, *Definitions - Potential to Emit (PTE)*, F.A.C.; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

3. Post Biosolids Combustion Trial Period: After successfully demonstrating initial compliance while combusting biosolids and after submitting the test reports required in Specific Condition Nos. III.8., 9., 10. & 11., the North Broward Waste-to-Energy Facility is authorized to combust biosolids in the amount of up to 15% of the municipal solid waste combustor Unit Nos. 1, 2 and 3 loading rates on an as received (i.e., wet) basis not to exceed 363 TPD facility-wide, averaged monthly. [Application No. 0112120-017-AC; Rule 62-210.200, *Definitions - Potential to Emit (PTE)*, F.A.C.; and, Applicant Request.]

4. Operating Rate During Testing: Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. [Rule 62-297.310(2), F.A.C.]

5. Biosolids Operation Practices: To ensure good mixing with MSW, operators shall use best management practices when firing biosolids as defined in the plant's Biosolids Training Plan. [Application No. 0112120-017-AC; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

OPERATOR TRAINING

6. Biosolids Training Plan: The owner or operator shall develop a training plan that defines the best management practices in handling, storage and combustion of biosolids in the municipal solid waste combustor Unit Nos. 1, 2 and 3. Operators shall be trained in accordance with this plan prior to the handling, storing, and combusting biosolids.

   The training plan shall identify the practices that promote good mixing and combustion, such as:

   The operator will spread biosolids with the crane grapple over the top of MSW in a waste storage bunker. Other MSW may be spread over the top of the biosolids. All mixing will take place in a waste storage bunker. Biosolids will not be placed on the tipping floor, or alone, in a waste storage bunker. Well-mixed (combined) materials will be fed directly into the combustor feed hopper. Alternately, mixing may occur on the tipping floor using a wheeled front-end loader if it is determined that such mixing of biosolids with MSW can be performed more effectively than using the crane grapple. In such case, the mixed MSW and biosolids will then be placed in a waste storage bunker along with other MSW.

   To the extent practicable, biosolids shall not come in contact with delivery truck tires or front-end loader wheels.

   As the plant gains experience with the handling and storing of biosolids, the Biosolids Training Plan shall be updated to reflect current best management practices. Updates to the Biosolids Training Plan will supersede any contradictory language contained in this permit specific condition only regarding the handling and storing of biosolids at the facility. Updates related to the combusting of biosolids shall be approved by the Department before implementation.

   The training plan shall be kept on site and made available for inspection upon request.

   [Application No. 0112120-017-AC; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

BIOSOLIDS COMBUSTION TRIAL PERIOD - INITIAL COMPLIANCE DEMONSTRATION (TESTING) WHILE COMBUSTING BIOSOLIDS

7. Notification of Commencement of Combustion of Biosolids: The owner or operator shall notify the permitting and compliance authorities upon commencement of combustion of biosolids in the municipal solid

waste combustor Unit Nos. 1, 2 and 3. [Application No. 0112120-017-AC; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

8. Initial Compliance Demonstration - Stack Test Data: The initial compliance demonstration while combusting biosolids shall be performed for PM and the individual MWC metals (e.g., cadmium (Cd), lead (Pb) and mercury (Hg)) using stack test data. All of the stack tests while combusting biosolids shall be performed on either MWC Unit No. 1, 2 or 3. A minimum of three stack test runs shall be conducted for each air pollutant (e.g., PM, Cd, Pb and Hg) while combusting biosolids and all runs shall be averaged. The emissions data shall be reduced to the averaging time(s) as specified in the current valid Title V air operation permit, Permit No. 0112120-013-AV. The results shall be compared to the existing emission standards/limits. A summary of the stack tests and results while combusting biosolids shall be submitted in a test report to the permitting and compliance authorities. In a summary of the test report, the permittee shall compare the results to when biosolids are not combusted in MWC units and to evaluate & report any changes in emissions.

   The test report shall include the rate (mass) at which biosolids were combusted during testing.

   A representative analysis of the biosolids combusted during testing shall be provided with the test report. The analysis shall include: a. the source(s) of the biosolids; b. the classification type of the biosolids, e.g., Class A, B or AA; and, c. the analytical results from the source of the biosolids showing the metal constituents, % solids by weight, and pathogen results.

   The carbon injection rate during Hg stack testing shall be included in the test report.

   {Permitting note: The permittee can also include statistical analyses of the compliance test results in the test report.}

   [Application No. 0112120-017-AC; Rule 62-297.310(7), *Special Compliance Tests*, F.A.C.; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

9. Initial Compliance Demonstration - COMS Data: The initial compliance demonstration while combusting biosolids in each MWC unit shall be performed for VE using COMS data. COMS data shall be from the same time period as the PM stack test. While combusting biosolids, a total of 3 hours of emissions data shall be used from the COMS. The emissions data shall be reduced to the averaging time(s) as specified in the current valid Title V air operation permit, Permit No. 0112120-013-AV. The results shall be compared to the existing emission standards/limits. A summary of the emissions data from the COMS while combusting biosolids shall be submitted in a test report to the permitting and compliance authorities. In a summary of the test report, the permittee shall compare the results to when biosolids are not combusted in MWC units and to evaluate & report any changes in emissions.

   The test report shall include the rate (mass) at which biosolids were combusted during testing.

   A representative analysis of the biosolids combusted during testing shall be provided with the test report. The analysis shall include: a. the source(s) of the biosolids; b. the classification type of the biosolids, e.g., Class A, B or AA; and, c. the analytical results from the source of the biosolids showing the metal constituents, % solids by weight, and pathogen results.

   [Application No. 0112120-017-AC; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

10. Initial Compliance Demonstration - CEMS Data: The initial compliance demonstration while combusting biosolids in each MWC unit shall be performed for SO_2, NOx and CO using CEMS data. At least 24 hours of CEMS data shall be collected while combusting biosolids to demonstrate compliance with the CO, SO_2 and NOx emissions standards. The periods of time in which the data is collected shall be the same periods of time for CO, NOx, and SO_2 emissions and each time period shall be no less than 4 continuous hours. The emissions data shall be reduced to the averaging time(s) as specified in the current valid Title V air operation permit, Permit No. 0112120-013-AV. The results shall be compared to the existing emission standards/limits. A summary of the emissions data from the SO_2, NOx and CO CEMS while combusting biosolids shall be submitted in a test report to the permitting and compliance authorities. In a summary of the test report, the

permittee shall compare the results to when biosolids are not combusted in MWC units and to evaluate & report any changes in emissions.

The test report shall include the rate (mass) at which biosolids were combusted during testing.

A representative analysis of the biosolids combusted during testing shall be provided with the test report. The analysis shall include: a. the source(s) of the biosolids; b. the classification type of the biosolids, e.g., Class A, B or AA; and, c. the analytical results from the source of the biosolids showing the metal constituents, % solids by weight, and pathogen results.

The ammonia/urea injection rate during NOx testing shall be included in the test report.

[Application No. 0112120-017-AC; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

11. Initial Compliance Demonstration - Phase (Step) Authorization: Prior to continued combustion of biosolids in each MWC unit at a higher quantity (maximum of 15%), initial compliance must be successfully demonstrated at each phase (step) of a 3-step approach. The following are the steps of the authorized 3-step approach: first step at 5%; second step at 10%; and, the third (last) step at 15%.

    The specific pollutants for which initial compliance demonstrations are required are delineated in Specific Condition Nos. III.8., 9. & 10. Initial compliance demonstrations for PM and the individual MWC metals (e.g., cadmium (Cd), lead (Pb) and mercury (Hg)) using stack test data at the 10% step is not required.

    [Application No. 0112120-017-AC; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

12. Test Methods and Procedures: The test methods and procedures specified in the current valid Title V air operation permit, Permit No. 0112120-013-AV shall be used for the initial compliance demonstration while combusting biosolids in the municipal solid waste combustor Unit Nos. 1, 2 and 3. [Application No. 0112120-017-AC; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

REPORTING

13. Special Report on the Effects of the Combustion of Biosolids: The owner or operator shall submit a special report on the effects of the combustion of biosolids on plant equipment, air pollution control devices & systems, the COMS and the CEMS. In the report the owner or operator shall indicate whether or not there have been any observed effects on plant equipment, air pollution control devices & systems, the COMS and the CEMS from the combustion of biosolids. This special report shall be submitted to the permitting and compliance authorities within one year of performing the initial compliance demonstration. [Application No. 0112120-017-AC; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

RECORDKEEPING

14. Biosolids Recordkeeping: For each month when biosolids are combusted, the owner or operator shall keep a record of the following on-site:
    a. the source of the biosolids;
    b. the classification type of biosolids, e.g., Class A, B or AA; and,
    c. the analytical results provided by the source of the biosolids showing: the metal constituents; % solids by weight, and pathogen results.

    {Permitting note: Sources of biosolids perform analyses under Chapter 640, F.A.C.}
    [Application No. 0112120-017-AC; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

15. Records and Reporting of Quantities of Biosolids Combusted: The permittee shall keep records on-site of the total quantity of biosolids combusted in the MWC units. The total annual quantity of biosolids combusted in the MWC units shall be reported in the AOR. [Application No. 0112120-017-AC; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

16. Records Availability: All records shall be made available to the Department upon request. [Application No. 0112120-017-AC; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

NESHAP 40 CFR 61, SUBPARTS A & E REQUIREMENTS

17. NESHAP 40 CFR 61 Requirements - Subpart A. The MWCs when combusting biosolids shall comply with all applicable requirements of 40 CFR 61, Subpart A, General Provisions, which have been adopted by reference in Rule 62-204.800(10)(d), F.A.C., except for 40 CFR 61.08 and except that the Secretary is not the Administrator for the purposes of 40 CFR 61.04, 40 CFR 61.11, and 40 CFR 61.18. In lieu of the process set forth in 40 CFR 61.08, the Department will follow the permit processing procedures of Rule 62-4.055, F.A.C. The MWCs when combusting biosolids shall comply with all applicable provisions of Appendix C. 40 CFR 61 Subpart A - General Provisions included with this permit. [Rule 62-204.800(10)(d), F.A.C.]

18. NESHAP 40 CFR 61 Requirements - Subpart E. The MWCs when combusting biosolids shall comply with all applicable requirements of 40 CFR 61, Subpart E, National Emission Standards for Hazardous Air Pollutants for Mercury, which have been adopted by reference in Rule 62-204.800(10)(b)3., F.A.C., except that the term "Administrator," when used in any provision of 40 CFR Part 61 that is delegated to the Department by the U.S. Environmental Protection Agency, shall mean the Secretary or the Secretary's designee. The MWCs when combusting biosolids shall comply with all applicable provisions of Appendix D. 40 CFR 61 Subpart E - NESHAP for Mercury included with this permit. [Rule 62-204.800(10)(a) & (b)3., F.A.C.]

19. Monitoring and Testing Requirements. The existing applicable continuous monitoring requirements, test methods and procedures for MWC Units 1, 2, and 3 are contained in the current valid Title V air operation permit, Permit No. 0112120-013-AV and are not changed by this permit. The Department approves the use of EPA Method 29 as an alternative test method in lieu of EPA Method 101A to demonstrate compliance with the additional mercury emission limiting standard specified in the NESHAP 40 CFR 61 Subpart E. The applicant is authorized to use the mercury test frequencies and procedures already required for the MWC Units 1, 2, and 3 pursuant to the Department's MWC Rule and 40 CFR 60, Subpart Cb and incorporated in the facility Title V air operation permit. [Application No. 0112120-017-AC; 40 CFR 61, Subpart E, 40 CFR 61.13(h)(1)(ii); and, Rule 62-204.800(10)(b)3., F.A.C.]

PERFORMANCE RESTRICTIONS

20. SNCR Operation for NOx Emissions: When combusting biosolids the owner or operator may need to inject additional reagent (ammonia/urea) into the SNCR system to keep NOx emissions low from the project (all three MWC units combined). [Application No. 0112120-017-AC; and, Rules 62-4.160(2), 62-212.400(12), *Source Obligation, escape-PSD*, and 62-210.200, *Definitions - Potential to Emit (PTE)*, F.A.C.]

21. Combustion Optimization for CO Emissions: When combusting biosolids the owner or operator may need to optimize combustion to keep CO emissions low from the project (all three MWC units combined). [Application No. 0112120-017-AC; and, Rules 62-4.160(2), 62-212.400(12), *Source Obligation, escape-PSD*, and 62-210.200, *Definitions - Potential to Emit (PTE)*, F.A.C.]

This subsection of the permit addresses the following emissions units:

E.U. ID No.	Brief Description
001	807 tons per day (TPD) (maximum) Municipal Waste Combustor and Auxiliary Burners - Unit 001
002	807 TPD (maximum) Municipal Waste Combustor and Auxiliary Burners - Unit 002
003	807 TPD (maximum) Municipal Waste Combustor and Auxiliary Burners - Unit 003

This subsection of the permit is for the combustion of landfill gas (LFG) in MWC Unit Nos. 1, 2 & 3.

The facility currently uses natural gas as a startup fuel. The permittee proposes to use LFG from the adjacent Monarch Hill Landfill, where it is currently being flared off. A maximum of 8,100 standard cubic feet per minute (scfm) of LFG on a short-term basis and 6,000 scfm of LFG on an annual average basis may be used. An estimated 233.3 MMBtu/hr of maximum heat input to the three MWC units may be from the LFG, which represents approximately 25.7% of the maximum short-term capacity of the three MWC units [302.5 MMBtu/hr x 3].

The specific new pieces of equipment and upgrades listed below associated with this project are authorized under this permit.

PREVIOUS APPLICABLE REQUIREMENTS

1. Effect on Other Permits: The conditions of this permit supplement all previously issued air construction and operation permits for these emissions units. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions and regulations. [Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

PHYSICAL CHANGES

2. New Pieces of Equipment and Upgrades: To be able to combust LFG, the following specific new pieces of equipment and upgrades are authorized by this subsection of the permit:
   a. Dual Fuel Burners. Replace the natural gas fired burners with dual fuel burners;
   b. Burner Management System. Upgrade the existing burner management system;
   c. Block and Bleed Valves. Add a new block and bleed valves for LFG;
   d. LFG Moisture Treatment and Conditioning System. Add a LFG moisture treatment and conditioning system. The LFG moisture treatment and conditioning system will include a moisture knock-out vessel, gas compressor & blowers, air-to-gas coolers, and filters to remove PM_{10} & larger from the gas stream; and,
   e. Pipeline. Construct a pipeline to supply LFG from the adjacent Monarch Hill Landfill.

[Application No. 0112120-017-AC; and, Rules 62-4.160(2) and 62-210.200, *Definitions - Potential to Emit (PTE)*, F.A.C.]

PERFORMANCE RESTRICTIONS

3. Permitted Capacity of LFG: A total combined maximum of 6,000 scfm of LFG on an annual average basis may be used as a supplementary fuel by the MWC Unit Nos. 1, 2 & 3. [Application No. 0112120-017-AC; and, Rules 62-4.160(2), 62-212.400(12), *Source Obligation, escape-PSD*, and 62-210.200, *Definitions - Potential to Emit (PTE)*, F.A.C.]

4. Sulfur Content of LFG: When the sulfur content [either as TRS or H_2S] of the LFG is at 1,204 ppmvd or higher the owner or operator may need to scrub the MWC exhaust gases more, i.e., increase the spray dryer absorber (SDA) systems (scrubbers) efficiencies above 90% to keep SO_2 emissions low from the project (all three MWC units combined). [Application No. 0112120-017-AC; and, Rules 62-4.160(2), 62-212.400(12), *Source Obligation, escape-PSD*, and 62-210.200, *Definitions - Potential to Emit (PTE)*, F.A.C.]

INITIAL COMPLIANCE DEMONSTRATION (TESTING)

5. Initial Compliance Demonstration - CEMS Data: The initial compliance demonstration while combusting LFG in each MWC unit shall be performed for SO_2 and NOx using CEMS data. At least 24 hours of CEMS data shall be collected while combusting LFG to demonstrate compliance with the SO_2 and NOx emissions standards. The periods of time in which the data is collected shall be the same periods of time for NOx and SO_2 emissions and each time period shall be no less than 4 continuous hours. The emissions data shall be reduced to the averaging time(s) as specified in the current valid Title V air operation permit, Permit No. 0112120-013-AV. The results shall be compared to the existing emission standards/limits. A summary of the emissions data from the SO_2 and NOx CEMS while combusting LFG shall be submitted in a test report to the permitting and compliance authorities. In a summary of the test report, the permittee shall compare the results to when LFG are not combusted in MWC units and to evaluate & report any changes in emissions.

   The test report shall include the rate (quantity, ft^3/hour) at which LFG were combusted during testing.

   A representative analysis of the LFG combusted during testing shall be provided with the test report. The analysis shall include: a. sulfur content, analyzed as both TRS and H_2S; and, b. nitrogen content.

   The lime injection rate during SO_2 testing and the ammonia/urea injection rate during NOx testing shall be included in the test report.

   [Application No. 0112120-017-AC; Rule 62-4.070(1)&(3), Reasonable Assurance, F.A.C.; Rule 62-4.030, General Prohibition, F.A.C.; and, Rule 62-4.210, Construction Permits, F.A.C.]

6. Visible Emissions (VE): The owner or operator shall assess opacity emissions in the MWC exhaust gases while burning LFG in each of the MWC units by observing the COMS data and submitting the COMS data to demonstrate compliance with the allowable VE standard of 10%, as specified in the current Title V Air Operation Permit No. 0112120-013-AV. [Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

NOTIFICATIONS, REPORTS AND RECORDS

7. Notification of First Firing LFG: The owner or operator shall notify the Permitting and Compliance Authorities upon first firing LFG in each of the MWC units. [Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

8. Special Report on the Effects of the Combustion of LFG: The owner or operator shall submit a special report on the effects of the combustion of LFG on plant equipment, air pollution control devices & systems, the COMS and the CEMS. In the report the owner or operator shall indicate whether or not there have been any observed effects on plant equipment, air pollution control devices & systems, the COMS and the CEMS from the combustion of LFG. This special report shall be submitted to the Permitting and Compliance Authorities within one year of performing the initial compliance demonstration. [Application No. 0112120-017-AC; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

9. Records and Reporting of Quantities of LFG Combusted: The permittee shall keep records on-site of the total quantity of LFG combusted in the MWC units. The total annual quantity of LFG combusted in the MWC units shall be reported in the AOR. [Application No. 0112120-017-AC; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

This subsection of the permit addresses the following emissions units:

E.U. ID No.	Brief Description
001	807 tons per day (TPD) (maximum) Municipal Waste Combustor and Auxiliary Burners - Unit 001
002	807 TPD (maximum) Municipal Waste Combustor and Auxiliary Burners - Unit 002
003	807 TPD (maximum) Municipal Waste Combustor and Auxiliary Burners - Unit 003

The original PSD-FL-112 (1987) authorized the construction of municipal solid waste combustor Unit Nos. 1, 2 & 3. The original PSD-FL-112, was amended by PSD-FL-112B, adding waste (fuel slate) specific conditions. PSD-FL-112D revised the waste (fuel slate) language allowing the combustion of higher quantities of "non-hazardous solid and liquid waste" (segregated loads).

This subsection of the permit addresses the waste (fuel slate) revisions for municipal solid waste combustor Unit Nos. 1, 2 & 3. The revisions are for: the removal of the prohibition of sewage sludge; and, the addition of the authorization of biosolids & landfill gas combustion.

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, Subpart Cb.

Permit Being Modified:	Permit No. 0112120-015-AC/PSD-FL-112D
Affected Emissions Units:	Municipal Waste Combustor Units 1, 2 & 3 (E.U. ID Nos. 001, 002 & 003)

The affected specific conditions from Permit No. Permit No. 0112120-015-AC/PSD-FL-112D are hereby changed as follows (the remainder of the permit remains unchanged as a result of this permitting action):

Specific Condition 7.

Specific Condition 7. as reflected in Specific Conditions A.4. & A.46. in the current valid Title V air operation permit No. 0112120-013-AV is changed as follows:

{For simplified reading, the important revisions are emphasized with yellow highlight in this electronic document. ~~Strikethrough~~ is used to denote the deletion of text and double-underlines are used to denote the addition of text.}

7. Methods of Operation -- Fuels.

a. *Allowable Fuels.*

…

b. *Unauthorized Fuels.*

(1) shall not burn:

…

(h) ~~sewage sludge;~~

~~(i)~~ explosives;

~~(j)~~(i) asbestos containing materials;

~~(k)~~(j) beryllium-containing waste, as defined in 40 CFR 61, Subpart C.

…

e. *Biosolids (includes Class B, A and AA biosolids) that are not Liquid Biosolids.* Subject to the conditions and limitations contained in this permit, biosolids that are not liquid biosolids may be used as fuel at the facility (i.e., an authorized fuel that is a segregated non-MSW material). The total quantity of biosolids that are not liquid biosolids received as segregated loads and burned at the facility shall not exceed 15%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined on a calendar month basis.

"**Biosolids**" and "**liquid biosolids**" under this permit are specifically described in Rule 62-640.200(6)&(28), F.A.C. and are defined as follows:

62-640.200 Definitions.

"**Biosolids**" means the solid, semisolid, or liquid residue generated during the treatment of domestic wastewater in a domestic wastewater treatment facility, formerly known as "domestic wastewater residuals" or "residuals." Not included is the treated effluent or reclaimed water from a domestic wastewater treatment plant. Also not included are solids removed from pump stations and lift stations, screenings and grit removed from the preliminary treatment components of domestic wastewater treatment facilities, other solids as defined in subsection 62-640.200(31), F.A.C., and ash generated during the incineration of biosolids. Biosolids include products and treated material from biosolids treatment facilities and septage management facilities regulated by the Department.

"**Liquid biosolids**" means any biosolids that are less than 12% solids by weight, or that are determined to contain free liquids as defined by Method 9095B (Paint Filter Liquids Test), November 2004, as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846), January 3, 2008, 73 FR 486, which is hereby adopted and incorporated by reference and is available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices.

"Liquid biosolids" as defined in Rule 640.200, F.A.C., shall not be unloaded onto the tipping floor or combusted in the municipal solid waste combustor Unit Nos. 1, 2 and 3.

~~e.~~f. *Waste Tires.* …

~~f.~~g. *Non-MSW Material.* …

~~g.~~h. *Non-hazardous Solid and Liquid Wastes/Segregated Loads.* Subject to the conditions and limitations contained in this permit, non-hazardous solid and liquid wastes may be used as fuel at the facility (i.e., authorized fuels that are non-MSW material). The total quantity of the non-MSW material received as segregated loads and burned at the facility shall not exceed 20%, by weight, of the facility's total fuel, unless otherwise stated. Compliance with this limitation shall be determined as a ~~daily average on a calendar monthly basis~~30-day rolling average in accordance with Specific Condition **7.** [Section 403.707(1), F.S. (amendment in 2012).]

~~h.~~i. *Auxiliary Burners Fuels.* …

j. *Landfill Gas (LFG).* A total combined maximum of 6,000 scfm of LFG on an annual average basis may be used as a supplementary fuel by the MWC Unit Nos. 1, 2 & 3.

…

Recordkeeping and Reporting Requirements

Segregated Solid Waste Record Keeping. …

c. Non-hazardous Solid and Liquid Waste/Segregated Loads. Each day, the total weight of segregated non-MSW materials received that are subject to the 20% restriction shall be computed~~,~~ and the ~~daily total~~30-day rolling average shall be updated ~~added to the sum of the daily totals from the previous days in the current calendar month. At the end of each calendar month, the resultant monthly total weight of segregated non-MSW materials shall be divided by the total weight of all waste materials received in the same calendar month, and the resulting number shall be multiplied by 100 to express the ratio in percentage terms~~. The percentage computed shall be compared to the 20% limitation. Records shall be maintained showing the non-hazardous solid and liquid waste's written certification that the waste is non-hazardous. Documentation requirements shall include a written description of the waste and a material characterization form for the waste components. Tonnages of non-hazardous solid and liquid waste fired shall be recorded and made available to the Department upon request. These records shall be maintained for a period of five (5) years. [Section 403.707(1), F.S. (amendment in 2012).]

[Rules 62-4.160(2), 62-210.200, 62-4.070(3), Rule 62-213.410 and 62-213.440(1), F.A.C.; Applicant's request in Title V permit renewal application received June 22, 2010; PSD-FL-105(B) and (D); Section 403.707(1), F.S. (amendment in 2012); and, Permit No. 0112120-017-AC/PSD-FL-112E.]