FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
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PERMITTEE

Wheelabrator North Broward, Inc.
2600 Wiles Road
Pompano Beach, Florida, 33073

Authorized Representative:
Mr. Jim Epsilantis, Plant Manager

Air Permit No. 0112120-012-AC/PSD-FL-112D
Permit Expires: June 30, 2014
Minor Air Construction Permit

Wheelabrator North Broward Waste-to-Energy Facility
Activated Carbon Injection System

PROJECT

This is the final air construction permit, which authorizes the installation of an activated carbon injection system; changing the testing frequency of mercury from semi-annually to annually upon operation of the activated carbon injection system; and, the removal of beryllium as a regulated pollutant. The proposed work will be conducted at the existing Wheelabrator North Broward Waste-to-Energy Facility, which is a large municipal waste combustor facility categorized under Standard Industrial Classification No. 4953. The existing facility is located in Broward County at 2600 NW 48th Street in Pompano Beach, Florida. The UTM coordinates are Zone 17, 583.541 km East, and 2907.498 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this 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.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. 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.

Executed in Tallahassee, Florida

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 with Appendices) 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. Jim Epsilantis, Wheelabrator North Broward, Inc.: (jepsilantis@wm.com)
Mr. Chuck Faller, Wheelabrator North Broward, Inc.: (cfaller@wm.com)
Mr. Kennard Kosky, P.E., Golder Associates, Inc.: (kkosky@golder.com)
Mr. Lee Hoefert, Southeast District Office: (lee.hoefert@dep.state.fl.us)
Ms. Daniela Banu, Broward County: (dbanu@broward.fl.us)
Ms. Cindy Mulkey, DEP Siting Office: (cindy.mulkey@dep.state.fl.us)
Ms. Katy Forney, EPA Region 4 (forney.kathleen@epa.gov)
Ms. Heather Ceron, EPA Region 4 (ceron.heather@epa.gov)
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Ms. Barbara Friday, DEP OPC: (barbara.friday@dep.state.fl.us)
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.

FACILITY DESCRIPTION

The existing facility consists of the following emissions units.

Facility ID No. 0112120	
ID No.	**Emission Unit Description**
001	807 tons per day (TPD) (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 1
002	807 TPD (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 2
003	807 TPD (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 3
004	236 Ton Lime Silo with Baghouse
005	Ash Handling System
006	Wet Scrubber in Ash Handling Building. (This scrubber has not been installed, but may be installed in the future should facility management deem it necessary for ash building indoor air quality control.)

PROPOSED PROJECT

The project requests the installation of an activated carbon injection system on existing municipal solid waste combustor units 1, 2, and 3 (E.U. IDs 001, 002, and 003) to enhance mercury control and minimize mercury emissions. This project will not change the potential emissions or allowable emissions. Activated carbon injection is being added to ensure compliance with the allowable mercury emission limit. The carbon injection system includes the installation of a bulk storage silo with a bin vent filter for the onsite storage of activated carbon; a silo fill station; weight loss carbon feeders; pneumatic conveying blowers; and, feeder/blower control systems with requisite outputs and alarms.

The project also requests changing the testing frequency of mercury from semi-annually to annually upon operation of the activated carbon injection system as the facility will no longer be subject to the emissions standards for facilities using waste separation to control mercury under Rule 62-296.416(b), F.A.C.

In addition, the permit still regulates beryllium which was effectively “delisted” as a PSD pollutant in this rule change effective August 15, 1999 and is being removed from the permit.

This project will modify the following emissions units.

Facility ID No. 0112120	
ID No.	**Emission Unit Description**
001	807 tons per day (TPD) (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 1
002	807 TPD (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 2
003	807 TPD (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 3

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The 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 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance in the Division of Air Resource Management of the Department of Environmental Protection (Department). The Office of Permitting and Compliance mailing address 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 Southeast District Office at: 400 North Congress Avenue, West Palm Beach, Florida 33416-5425.

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); and Appendix D (Common Testing Requirements).

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 and 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. 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.]

6. 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) and 62-212.300(1)(a), F.A.C.]

7. Construction and Expiration. The expiration date shown on the first page of this permit provides time to complete the physical construction activities authorized by this permit, complete any necessary compliance testing, and obtain an operation permit. Notwithstanding this expiration date, all specific emissions limitations and operating requirements established by this permit shall remain in effect until the facility or emissions unit is permanently shut down. For good cause, the permittee may request that that a permit be extended. Pursuant to Rule 62-4.080(3), F.A.C., such a request shall be submitted to the Permitting Authority in writing before the permit expires. [Rules 62-4.070(4), 62-4.080 & 62-210.300(1), F.A.C.]

A. Municipal Waste Combustors – Units 1, 2, and 3

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
001	807 tons per day (TPD) (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 1
002	807 TPD (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 2
003	807 TPD (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 3

ADMINISTRATIVE REQUIREMENTS

1. Previous Permit Conditions: This PSD permit modification authorizes the installation of an activated carbon injection system on three municipal waste combustors designated as Units 1, 2 and 3. The following conditions are in addition to those of any other PSD permits, modifications thereto or operation permits. [Rule 62-4.210, F.A.C.]

CONSTRUCTION ACTIVITIES

2. Installation of Powdered Activated Carbon Injection (ACI) System: The permittee shall install a system to inject powdered activated carbon in the flue gas from the boiler at a location prior to the acid gas control device to provide further control of mercury consisting of a bulk storage silo with a bin vent filter for the onsite storage of activated carbon; a silo fill station; weight loss carbon feeders; pneumatic conveying blowers; and, feeder/blower control systems with requisite outputs and alarms. [Applicant's Request]

NOTIFICATIONS AND REPORTS

3. Notifications: Within one week of beginning construction, the permittee shall notify the Compliance Authority that the project has commenced and provide a general schedule of construction activities. Within one week of completing construction, the permittee shall notify the Compliance Authority that the project has concluded and provide a general schedule of bringing the unit back on line. [Rule 62-4.210, F.A.C.]

{Permitting note: The following PSD permit conditions 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.}

4. Modification of PSD Permit: Permit PSD-FL-112B is modified, as follows:

Specific Condition No. 1.a. The following emissions standards apply to the following emissions units after improvements to comply with 40 CFR Subpart Cb are completed and the initial performance tests are completed. [Rule 62-204.800(8)(b), 40 CFR 60 Subpart Cb]

EU No.	Brief Description
001	302.5 MMBtu/hr (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit No.1
002	302.5 MMBtu/hr (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit No.2
003	302.5 MMBtu/hr (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit No.3

(Permitting Note: Each of the three municipal waste combustors (MWCs) has a *nominal* design rate capacity of 747 tons MSW per day and 280 MMBtu heat input (with MSW having a heating value of 4,500 Btu per pound). A maximum capacity of 807 tons per day and 302.5 MMBtu per hour heat input (108% rated capacity) is allowed. Short-term capacity is limited by limiting steam production (maximum of 186,000 lb/hr), which effectively limits heat input.

A. Municipal Waste Combustors – Units 1, 2, and 3

POLLUTANT	EMISSIONS STANDARDS[1]	EQUIVALENT EMISSIONS[2]		
		Lb/mmBtu	lb/hr	TPY
PM[3] Particulate Matter	27 mg/dscm or 0.012 gr/dscf corrected to 7% O_2	0.024	7.35	32.24
VE Visible Emissions	10% (6 min. block avg.)			
Cd Cadmium	0.040 mg/dscm corrected to 7% O_2	3.6 E-05	0.011	0.048
~~**Be**[4] Beryllium~~	~~0.001 mg/dscm corrected to 7% O_2~~	~~9.3 E-07~~	~~0.0003~~	~~0.0012~~
Pb Lead	0.44 mg/dscm corrected to 7% O_2	4.4 E-04	0.133	0.58
Hg Mercury	~~70~~ 50 ug/dscm or 85% reduction by weight or volume corrected to 7% O_2 (whichever is less stringent)	~~6.3 E-05~~ 4.96 E-05	~~0.019~~ 0.015	~~0.08~~ 0.066
SO_2 Sulfur Dioxide	29 ppmvd or 75% reduction corrected to 7% O_2 (whichever is less stringent)	0.11	32.8	143.5
HCl Hydrochloric Acid	29 ppmvd or 95% reduction by weight or volume corrected to 7% O_2 (whichever is less stringent)	0.04	11.7	51.3
Dioxins/Furans	30 ng/dscm corrected to 7% O_2	2.7 E-08	8.2 E-06	3.6 E-05
NO_X Nitrogen Oxides	205 ppmvd corrected to 7% O_2	0.35	106.5	466.4
CO Carbon Monoxide	100 ppmvd corrected to 7% O_2	0.105	31.8	139.1
F Fluorides	Not to exceed 0.0040 lb/MMBtu (BACT limit from original permit)	0.0040	1.21	5.29

1. These maximum allowable emission standards are applicable to each MSW combustor unit and shall be used in demonstrating compliance with the compliance procedures specified in specific conditions d.3. [Rules 62-4.070 and 62-296.416, F.A.C., 40 CFR 60.33b and 40 CFR 60.34b.]
2. Permitting note: These equivalent emissions are listed for the purposes of providing information on the potential to emit for each MWC and not in determining compliance with applicable emission standards.
3. This limit for PM is more restrictive than the emission limit for PM in 40 CFR 60.43b.
4. ~~Beryllium: PSD original permit limit. Not to exceed applicable NESHAP. 40 CFR 61.32(a)(Subpart C).~~

Specific Condition No. 1.d. Compliance Tests

1.d.(2)p. Method 29, Determination of Metals Emissions from Stationary Sources (I) and (A). Mercury emissions testing shall be conducted semiannually until such time as the activated carbon injection system becomes operational at which time mercury emissions testing shall be conducted annually. Mercury stack tests shall be performed downstream of the control devices or upstream and downstream of the control devices when determining compliance with the alternative removal requirement.

Specific Condition No. 8. Air pollution Control Equipment

8.e. ~~Mercury is controlled by source separation techniques pursuant to Rule 62-296.416 F.A.C. (New Condition)~~ The facility shall be equipped with an activated carbon injection system consisting of a bulk storage silo with a bin vent filter for the onsite storage of activated carbon; a silo fill station; weight loss carbon feeders; pneumatic conveying blowers; and, feeder/blower control systems with requisite outputs and alarms.
[Applicants Request]

{Permitting Note: The applicable emission limits are specified or maintained in the PSD permit, modifications thereto and the facility Title V operation permit.}