

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

May 20, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Thomas D. Kirk
Plant Manager
Wheelabrator North Broward, Inc.
2600 N. W. 48th Street
Pompano Beach, Florida 33073

Re: DEP File No. PSD-FL-112(B)
Metals Recovery and Pollution Control Project

Dear Mr. Kirk:

Enclosed is one copy of the Draft Modification to the Permit for the Prevention of Significant Deterioration of Air Quality (PSD Permit) for the Wheelabrator North Broward Recourse Recovery Facility located at 2600 N. W. 48th Street, Pompano Beach, Broward County, Florida 33073. The Technical Evaluation and Preliminary Determination, the Department's Intent to Issue and the Public Notice of Intent to Issue PSD Permit Modification are also included.

The Public Notice of Intent to Issue PSD Permit Modification must be published one time only, as soon as possible, in the legal advertisement section of a newspaper of general circulation in the area affected, pursuant to the requirements Chapter 50, Florida Statutes. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within seven days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit.

Please submit any written comments you wish to have considered concerning the Department's proposed action to A. A. Linero, P.E., Administrator, New Source Review Section at the above letterhead address. If you have any other questions, please contact Ms. Teresa Heron at 850/921-9529 or Mr. Linero at 850/921-9523.

Sincerely,

C. H. Fancy, P.E., Chief,
Bureau of Air Regulation

CHF/th

Enclosures

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Printed on recycled paper.

PUBLIC NOTICE OF INTENT TO ISSUE PSD PERMIT MODIFICATION

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. PSD-FL-112(B)
Wheelabrator North Broward, Inc.
Broward County

The Department of Environmental Protection (Department) gives notice of its intent to issue a PSD Permit Modification to Wheelabrator North Broward, Inc to: improve the air pollution control system; specify which materials can be burned; install a metals recovery facility; and make a number of monitoring changes at its resource recovery facility. A Best Available Control Technology determination was not required pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The applicant's name and address are Wheelabrator North Broward, Inc. 2600 N. W. 48th Street Pompano Beach, Florida 33073

The purpose of the air pollution control project is to comply with 40 CFR 60, Subpart Cb - Emission Guideline and Compliance Times for Municipal Waste Combustors That Are Constructed on or Before December 19, 1995. The Emission Guideline was developed pursuant to Section 129 (Solid Waste Combustion) of the Clean Air Act as amended in 1990. These requirements are incorporated in Department Rule 62-204.800(8), F.A.C.

The facility consists of three nominal 747 ton per day (TPD) mass burn furnaces, waterwall boilers, ash discharge systems, air pollution control equipment, and a steam turbine with a 68 megawatt electrical generator. The existing air pollution control system for each unit consists of spray dryer absorbers and fabric filters. The system will be improved by installation of a selective non-catalytic reduction system for the control of nitrogen oxides and by incorporation of combustion controls to minimize formation of dioxins and furans, volatile organic compounds, and carbon monoxide.

The original PSD permit contained permit limits in accordance with the existing regulations in 1987. Specific limits, in compliance with current Subpart Cb, and testing requirements are proposed for all previously mentioned pollutants. Continuous emission monitors will be installed for sulfur dioxide, nitrogen oxides, oxygen, carbon monoxide, and temperature at key points.

The units were originally permitted to utilize "refuse such as garbage and trash" as defined in the Department's solid waste rules. The modified permit will specify the wastes as: solid waste including municipal solid waste (MSW) as defined at 40 CFR 60.51b and Section 403.706(5), F.S.; segregated wastes such as records and documents, non-hazardous contraband, clean wood and land clearing debris, packaging materials, clothing and fabric remnants and certain types of floor covering; segregated waste tires (not to exceed 3 percent of the total wastes received); other segregated wastes (not to exceed 5 percent of the total wastes received) such as construction and demolition debris, oil spill debris, expired or off-spec packaged or unpackaged consumable goods (e.g. pharmaceuticals), consumer products, waste materials containing oil, used oil and filters and certain other wastes similar to MSW. The precise nature of the wastes is detailed in the draft permit package. By limiting the amount of segregated materials combusted at the facility, the Department has reasonable assurance that the overall composition of the wastes burned will be within the typical characteristics of MSW in terms of heating value, moisture, ash, and emissions characteristics.

Additional requested revisions to the permit are to replace the 300 degree F temperature limit at the acid control device (fabric filter outlet) with the Subpart Cb particulate control device inlet temperature and to eliminate the furnace temperature requirements by incorporation of the good combustion practices specified in Subpart Cb. Wheelabrator is also planning to install equipment and facilities to expand the removal of recoverable metals from the bottom ash generated by the facility.

The Department will issue the FINAL Permit Modification, in accordance with the conditions of the DRAFT Permit Modification unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed DRAFT Permit Modification issuance action for a period of 30 (thirty) days from the date of publication of this Notice. Any written comments should be provided to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in this DRAFT Permit Modification, the Department shall issue a Revised DRAFT Permit Modification and require, if applicable, another Public Notice.

The Department will issue FINAL Permit Modification with the conditions of the DRAFT Permit Modification unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S. The procedures for petitioning for a hearing are set forth below. Mediation is not available for this action.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, telephone: 850/488-9370, fax: 850/487-4938. Petitions must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. A petitioner must mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-5.207 of the Florida Administrative Code.

A petition must contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of the facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement identifying the rules or statutes that the petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the Department's action or proposed action addressed in this notice of intent.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice of intent. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental
Protection
Bureau of Air Regulation
111 S. Magnolia Drive, Suite 4
Tallahassee, Florida, 32301
Telephone: 850/488-0114
Fax: 850/922-6979

Department of Environmental
Protection
Southeast District Office
400 North Congress Avenue
West Palm Beach, Florida 33416-5425
Telephone: (561) 681-6600
Fax: : (561) 681-6755

Broward County Department of
Natural Resource Protection
Air Quality Division
218 Southwest First Avenue
Ft. Lauderdale, Florida 33301
Telephone: (954) 519-1220
Fax: : (954) 519-1495

The complete project file includes the Draft Permit Modification, the application, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information.

In the Matter of an
Application for Permit Modification by:

Wheelabrator North Broward, Inc.
2600 N. W. 48th Street
Pompano Beach, Florida 33073

DEP File No. PSD-FL-112(B)
Metals Recovery and Pollution Control Project
Broward County

INTENT TO ISSUE PSD PERMIT MODIFICATION

The Department of Environmental Protection (Department) gives notice of its intent to issue a PSD Permit Modification (copy of DRAFT Permit Modification attached) for the proposed project, as detailed in the application specified above, for the reasons stated below.

The applicant, Wheelabrator North Broward, Inc., applied on December 17, 1998, to the Department for a PSD Permit Modification for its North Broward Resource Recovery Facility located at 2600 N. W. 48th Street, Pompano Beach, Broward County. Wheelabrator North Broward, Inc. requested to revise the existing PSD permit for clarification of the permitted fuels allowed to be combusted at the North Broward Resource Recovery Facility, and to install a selective non-catalytic reduction system for NOx control. Additional requested revisions to the permit are to replace the 300 °F temperature limit at the acid control device (fabric filter outlet) with the Subpart Cb particulate control device inlet temperature and to eliminate the furnace temperature requirements by incorporation of the good combustion practices (GCP) specified in Subpart Cb. Wheelabrator is also planning to install equipment and facilities to expand the removal of recoverable metals from the bottom ash generated by the facility.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-212. The above actions are not exempt from permitting procedures. The Department has determined that a PSD Permit Modification is required to include the fuels requested by the facility.

The Department intends to issue this PSD Permit Modification based on the belief that reasonable assurances have been provided to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1., F.A.C., you (the applicant) are required to publish at your own expense the enclosed "PUBLIC NOTICE OF INTENT TO ISSUE PSD PERMIT MODIFICATION". The notice shall be published one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-24, (Telephone: 850/488-0114; Fax 850/922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rules 62-110.106(7) & (11), F.A.C.

The Department will issue the FINAL Permit Modification, in accordance with the conditions of the enclosed DRAFT Permit Modification unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed DRAFT Permit Modification issuance action for a period of 30 (thirty) days from the date of publication of "PUBLIC NOTICE OF INTENT TO ISSUE PSD PERMIT MODIFICATION." Any written comments should be provided to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in this DRAFT Permit Modification, the Department shall issue a Revised DRAFT Permit Modification and require, if applicable, another Public Notice.

The Department will issue the Permit Modification with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S. The procedures for petitioning for a hearing are set forth below. Mediation is not available for this action

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, telephone: 850/488-9730, fax: 850/487-4938. Petitions must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. A petitioner must mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-5.207 of the Florida Administrative Code.

A petition must contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of the facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement identifying the rules or statutes that the petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the action or proposed action addressed in this notice of intent.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice of intent. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is

permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.



C. H. Fancy, P.E., Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE PSD PERMIT MODIFICATION (including the PUBLIC NOTICE, TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION and DRAFT Permit Modification) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 5-21-99 to the person(s) listed:

Thomas D. Kirk, Plant Manager, Wheelabrator North Broward, Inc. *
Ken Kosky, P.E
Gregg Worley, EPA
Isidore Goldman, P.E, FDEP SED
Daniela Banu, Director, BCDNRP
Buck Oven, P.E, DEP/PPSC

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED. on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Keni Jober 5-21-99
(Clerk) (Date)

TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION

North Broward Resource Recovery Facility

Wheelabrator North Broward, Inc.
Pompano Beach, Florida
Broward, County

DEP FILES: PSD-FL-112(B) and PA 86-22

Facility ID No.: 0112120

Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation

May 20, 1999

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

1.0 APPLICATION INFORMATION

1.1 Applicant Name and Address

Wheelabrator North Broward, Inc.
2600 N. W. 48th Street
Pompano Beach, Florida 33073

Authorized Representative
Mr. Thomas D. Kirk, Plant Manager

1.2 Reviewing and Process Schedule

12-07-99: Date of Receipt of Application
04-12-99: Application deemed complete. FDEP Bureau of Air Quality Regulation
05-20-99: Issued Intent

2. FACILITY INFORMATION

2.1 Facility Location

The Wheelabrator North Broward, Inc. facility is located at 2700 Hilton Road (N. W. 48th Street), Pompano Beach, Broward County. The UTM coordinates of this facility are Zone 17 ; 583.5 km E ; 2,907.5 km N.

2.2 Standard Industrial Classification Code (SIC)

Major Group No.	49	Electric, Gas, and Sanitary Services
Group No.	495	Sanitary Services
Industry No.	4953	Refuse Systems

2.3 Facility Category

This facility produces electricity by combusting solid waste, recovering the heat as steam, and expanding the steam in an electrical generator. The solid waste burned is typically characterized as "refuse such as garbage and trash" or as municipal solid waste (MSW). Each of the three incinerators at the facility is permitted to combust up to 806.6 tons per day (108% of rated capacity) of municipal solid waste (MSW). Certain segregated wastes consisting of materials typically found in MSW are mixed into the waste while maintaining the overall characteristics of the waste within the typical ranges of heat and moisture content as well as emission characteristics. The electricity produced is sold to the local utility. The generator name plate rating is 67.6 MW for the facility.

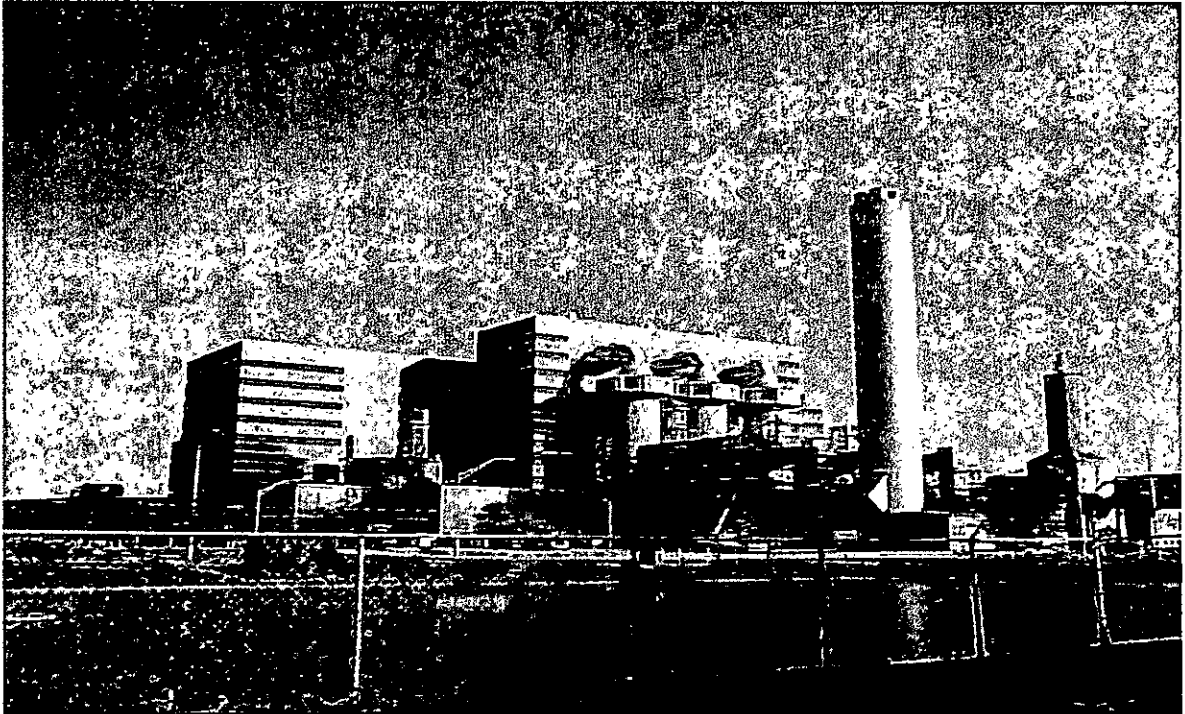
TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

The facility is classified as a major, or Title V, source of air pollution because emissions of at least one regulated air pollutant exceed 100 tons per year. Air pollutant emissions are over 100 TPY for sulfur dioxide (SO₂), nitrogen oxides (NO_x) and carbon monoxide (CO). It is also a major source because emissions of hazardous air pollutants exceed 10 tons per year individually or 25 tons per year in the aggregate.

This facility is on the list of the 28 Major Facility Categories, Table 62-212.400-1, F.A.C. Because emissions are greater than 100 tons per year for at least one criteria pollutant, the facility is also a major facility with respect to Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD).

The facility was issued a PSD permit, including a determination of Best Available Control Technology (BACT), by the United States Environmental Protection Agency (EPA) on June 26, 1987. This PSD permit was later modified on February 9, 1989.

The Wheelabrator North Broward Resource Recovery Facility photograph follows:



3. PROJECT DESCRIPTION

3.1 This permit addresses the following emissions units:

EMISSION UNIT No.	SYSTEM	EMISSION UNIT DESCRIPTION
-001	Unit #1	806.6 Tons per Day (maximum) MSW Incinerator
-002	Unit #2	806.6 Tons per Day (maximum) MSW Incinerator
-003	Unit #3	806.6 Tons per Day (maximum) MSW Incinerator

Project: Compliance with Subpart Cb
Wheelabrator North Broward, Inc.

Facility I.D. No. 0112120
PSD- FL-112B and PA 86-22

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

On December 7, 1998, Wheelabrator North Broward, Inc requested a revision to their existing PSD permit for clarification of the permitted fuels allowed to be combusted at the North Broward Resource Recovery Facility. The permit currently allows for the combustion of "refuse such as garbage and trash (as defined in Chapter 17-7, FAC) but not grease, scum, grit screenings or sewage sludge." Although the applicant states that in the site certification application, the waste was identified as "all forms of garbage, commercial waste, rubbish, leaves and brush, paper and cardboard, plastics, wood and lumber, rags, carpeting, a limited amount of tires, wood furniture, mattresses, stumps, wood pallets, timber, tree limbs, ties, and logs, not separated and recycled at the source of generation, and minor amounts of pathological and biological wastes", the PSD permit and the PPSC document as written did not specified all these wastes. This permitting action will explicitly specify which materials can be burned.

In addition to the above request, Wheelabrator is also requesting:

- The addition of a Metal Recovery Facility
- The addition of Selective Non-Catalytic Reduction (SNCR) required to meet 40 Code of federal regulations (CFR) Part 60, Subpart Cb as adopted by reference in Rule 62-204(7)(b) Florida Administrative Code (F.A.C)
- A new permit condition for the fabric filter temperature in accordance with Cb Emission Guideline Requirements
- Elimination of Furnace Temperature limits
- Incorporate Good Combustion Practice (GCP) requirements of Subpart Cb.
- To eliminate emission limits for VOC, SAM, HF and As.

The existing boilers are already equipped with the spray dryer absorber and fabric filters. Wheelabrator uses the mercury separation program to reduce mercury emissions. Reduction of NO_x in the combustion gases will be accomplished by the proposed new SNCR system that involves injection of liquid ammonia (NH₃) or urea.

The following details the applicant's request and the Department determination:

3.2 *Waste fuels*

The units were originally permitted to utilize "refuse such as garbage and trash" as defined in the Department's solid waste rules. The applicant requests that the modified permit specify the wastes and certain segregated wastes as solid waste including municipal solid waste (MSW) as defined at 40CFR60.51b and Section 403.706 (5), F.A.C., Florida Statutes (1995). The applicant proposed the following wording:

- 3.2.1. Subject to the limitations contained in this permit, the authorized fuels for the facility also include the other solid wastes that are not MSW which are described below. However, the facility shall not burn:
- (a) those materials that are prohibited by state or federal law;
 - (b) those materials that are prohibited by this permit;
 - (c) those materials that are not authorized by this permit;
 - (d) lead acid batteries;

Project: Compliance with Subpart Cb
Wheelabrator North Broward, Inc.

Facility I.D. No. 0112120
PSD- FL-112B and PA 86-22

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

- (e) hazardous waste;
- (f) nuclear waste;
- (g) radioactive waste;
- (h) sewage sludge;
- (i) explosives.

3.2.2 The fuel may be received either as a mixture or as a single-item stream (segregated load) of discarded materials. If the facility intends to use an authorized fuel that is segregated non-MSW material, the fuel shall be either:

- (a) well mixed with MSW in the refuse pit; or
- (b) alternately charged with MSW in the hopper.

3.2.3 The facility owner/operator shall prepare and maintain records concerning the description and quantities of all segregated loads of non-MSW material which are received and used as fuel at the facility, and subject to a percentage weight limitation, below (3.2.6. and 3.2.7). For the purposes of this permit, a segregated load is defined to mean a container or truck that is almost completely or exclusively filled with a single item or homogenous composition of waste material, as determined by visual inspection.

3.2.4 To ensure that the facility's fuel does not adversely affect the facility's combustion process or emissions, the facility operator shall:

- (a) comply with good combustion operating practices in accordance with 40 CFR 60.53b;
- (b) install, operate and maintain continuous emissions monitors (CEMS) for oxygen, carbon monoxide, sulfur dioxide, oxides of nitrogen and *particulate control device inlet* temperature in accordance with 40 CFR 60.58b; and
- (c) record and maintain the CEMS data in accordance with 40 CFR 60.59b.

These steps shall be used to ensure and verify continuous compliance with the emissions limitations in this permit.

Natural gas may be used as fuel during warm-up, startup, shutdown, and malfunction periods, and at other times when necessary and consistent with good combustion practices.

3.2.5 Subject to the conditions and limitations contained in this permit, the following other solid waste may be used as fuel at the facility:

- (a) Confidential, proprietary or special documents (including but not limited to business records, lottery tickets, event tickets, coupons, *credit cards*, *magnetic tape* and microfilm);
- (b) Contraband which is being destroyed at the request of appropriately authorized local, state or federal governmental agencies, provided that such material is not an explosive, a propellant, a hazardous waste, or otherwise prohibited at the facility. For the purposes of this section, contraband includes but is not limited to drugs, narcotics, fruits, vegetables, plants, counterfeit money, and counterfeit consumer goods;
- (c) Wood pallets, clean wood, and land clearing debris;
- (d) Packaging materials and containers;

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

- (e) Clothing, natural and synthetic fibers, fabric remnants, and similar debris, including but not limited to aprons and gloves; or
 - (f) Rugs, carpets, and floor coverings, but not asbestos-containing materials or polyethylene or polyurethane vinyl floor coverings.
- 3.2.6 Subject to the conditions and limitations contained in this permit waste tires may be used as fuel at the facility. The total quantity of waste tires received as segregated loads and burned at the facility shall not exceed 3%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30-day average in accordance with specific condition No. 3.2.8 below.
- 3.2.7 Subject to the conditions and limitations contained in this permit, the following other solid waste materials may be used as fuel at the facility (i.e. the following are authorized fuels that are non-MSW material). The total quantity of the following non-MSW material received as segregated loads and burned at the facility shall not exceed 5%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30 day average in accordance with specific condition No.3.2.8 below.
- (a) Construction and demolition debris.
 - (b) Oil spill debris from aquatic, coastal, estuarine or river environments. Such items or materials include but are not limited to rags, wipes, and absorbents.
 - (c) Items suitable for human, plant or domesticated animal use, consumption or application where the item's shelf-life has expired or the generator wishes to remove the items from the market. Such items or materials include but are not limited to off-specification or expired consumer products, pharmaceuticals, medications, health and personal care products, cosmetics, foodstuffs, nutritional supplements, returned goods, and controlled substances.
 - (d) Consumer-packaged products intended for human or domesticated animal use or application but not consumption. Such items or materials include but are not limited to carpet cleaners, household or bathroom cleaners, polishes, waxes and detergents.
 - (e) Waste materials that:
 - (i) are generated in the manufacture of items in categories (c) or (d), above and are functionally or commercially useless (expired, rejected or spent); or
 - (ii) are not yet formed or packaged for commercial distribution. Such items or materials must be substantially similar to other items or materials routinely found in MSW.
 - (f) Waste materials that contain oil from:
 - (i) the routine cleanup of industrial or commercial establishments and machinery; or
 - (ii) spills of virgin or used petroleum products. Such items or materials include but are not limited to rags, wipes, and absorbents.
 - (g) Used oil and used oil filters. Used oil containing a PCB concentration equal or greater than 50 ppm shall not be burned, pursuant to the limitations of 40 CFR 761.20(e).
 - (h) Waste materials generated by manufacturing, industrial or agricultural activities, provided that these items or materials are substantially similar to items or materials that are found routinely in MSW, subject to prior approval of the Department.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

3.2.8. Segregated Solid Waste Record Keeping:

The following records shall be made and kept to demonstrate compliance with the segregated non-MSW percentage limitations of specific condition 3.2.

Each segregated load of non-MSW materials, that is subject to the percentage weight limitation of specific conditions 3.2.6 and 3.2.7, which is received for processing shall be documented as to waste description and weight. The weight of all waste materials received for processing shall be measured using the facility truck scale and recorded.

Each day the total weight of segregated tires received shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days. The resultant 30 day total weight of tires shall be divided by the total weight of all waste materials received in the same 30 day period, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 3% limitation.

Each day the total weight of segregated non-MSW materials received that are subject to the 5% restriction shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days. The resultant 30 day total weight of segregated non-MSW materials shall be divided by the total weight of all waste materials received in the same 30 day period, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 5% limitation.

3.3. *Emission Limits*

- The applicant proposes that the following emissions limits currently in the PSD/PPSC be deleted:
- Emission limits for sulfuric acid mist and fluorides (as HF) be deleted since the facility has continuously demonstrated compliance with these limits.
- CO limit to be replaced with the Subpart Cb Good Combustion Practice (GCP) requirements.
- To eliminate the VOCs emission limit since the CO limit would provide assurance that emissions of VOCs remain low.
- To eliminate the arsenic emissions limit since this pollutant is not longer considered a PSD pollutant.

The Department's Bureau of Air Regulation has determined that a CO limit pursuant to 40CFR 60 Subpart Cb shall be part of the permit. The CO limit requirement is one of the rationales to demonstrate continuous compliance with GCP stated in the EPA Municipal Waste Combustion: Background Document mentioned below and is also a part of the applicable Subpart Cb emissions standards.

Regarding, hydrogen fluoride (HF), the Department would need test results accomplished during the initial performance test to demonstrate that the burning of the requested fuels do not exceed the permitted limit imposed as part of the original BACT-PSD permit.

For VOCs and sulfuric acid mist ($H_2SO_{4\text{mist}}$) emissions limits, is the Department intention to remove them from the Power Plant Site Conditions of Certification (PPSCC). The Department

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believes that since 40CFR60 Subpart Cb does not include emission standards for these pollutants, compliance with the CO and SO₂ emissions limits are sufficient to determine compliance with the VOCs and sulfuric acid mist (H₂SO_{4 mist}) emissions limits imposed in the original PPSCC.

Regarding arsenic (As), the PSD permit does not include an emission limit for this pollutant. No new limit for this pollutant would be imposed as a result of this permitting action.

3.4. *Removal of 300 OF SDA/FF outlet Temperature Limit*

The applicant proposed that the existing 300°F PPSC temperature limit at the acid gas control device exit (fabric filter outlet) be replaced with the Subpart Cb particulate control device inlet temperature limit.

The applicant contends that the Subpart Cb temperature limit is determined during annual compliance testing and therefore it is directly tied to actual emissions performance of the boiler and air pollution control equipment. They state that the current, PPSC limit of 300°F at the exit of the acid gas control device was primarily intended to ensure that the acid gas control device would achieve at least 90 percent removal of acid gases and secondarily to ensure that trace metals and semivolatile organics such as dioxins would be condensed onto particulate and therefore collected in the particulate control device.

The applicant adds that the 90 percent removal of acid gases design requirement in the PPSC presumably referred to hydrogen chloride (HCl) since SO₂ had a specific limit of 0.14 lb/mmBtu or 65 percent removal. Subpart Cb incorporates emission limits for MWC acid gases (HCl and SO₂). The HCl limit of 29 ppm at 7 percent O₂ or 95 percent removal is based on annual stack testing. The Subpart Cb, HCl limit can be continuously achieved by SDA/FF air pollution control equipment irrespective of a 300°F temperature limit. They affirm that, the Subpart Cb temperature limit derived directly from annual compliance tests ensures that control of trace metals and dioxins or other organics will be continuously achieved. The regulated metals, including cadmium, lead, and beryllium, condense onto particulate at temperatures well above 300°F in the convective sections of the boiler. Consequently, maintaining a 300°F baghouse outlet temperature provides no additional control for these metals. Mercury control will increase at lower fabric filter temperatures but test data has shown little difference in mercury removal at temperatures less than 350°F. The fact that the applicant uses waste separation for mercury control further supports its position.

Based on the above, the applicant believes that the substitution of the Subpart Cb particulate control device inlet temperature limit for the existing 300°F limit will ensure that high removal levels of all metals and semivolatile organics will be continuously achieved. Operating at a higher temperature will also reduce baghouse maintenance due to higher corrosion levels attributed to operating at a lower temperature.

The Department's Bureau of Air Regulation concurs with the applicant and its proposal. The outlet temperature requirement is deleted from the permit and replaced by the inlet temperature to the control device as required by 40 CFR60 Subpart Cb.

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As explained in the EPA's Background Information Document to the Subpart Cb Emissions Guidelines, EPA decided to select the inlet temperature to the control device as the control parameter. EPA explanation to how to determine the maximum PM control device inlet temperature is to "take the highest average PM control device inlet temperature measured during any one of three successful performance run for dioxin/furans and to add 17°C (30°F). The averaging time for the PM control device inlet temperature limit must be consistent with the averaging time for a single dioxin/furan performance test (approximately 4 hours). If an 8-hour averaging time was allowed for the inlet temperature, then a unit could theoretically operate for 4 hours at temperatures above those shown to be safe by the dioxin/furan performance test. The PM control device inlet temperature requirements help ensure that conditions for high dioxin/furan formation rates do not occur. The temperature limit also controls partitioning of dioxin/furan between the solid and vapor phase. At lower temperatures, dioxins/furans remain absorbed on PM and are disposed with the collected fly ash. There is no evidence that dioxin/furans absorbed on fly ash can be volatilized at ambient temperatures nor leached in landfills. EPA adds that the temperature at which low dioxin/furan emissions is achieved may defer between MWC units, and that the requirements take that into consideration" ¹.

3.5 *Furnace Temperature Requirements*

The PPSC and the PSD permit requires that the furnace temperature be monitored and maintained above 1,800°F.

The applicant proposes that based on continuing compliance with the Subpart Cb good combustion practice (GCP) operational requirements, the furnace temperature limit and monitoring requirements can be eliminated from the permit and PPSC. They affirm that the GCP requirements will ensure that optimum boiler combustion and fabric filter operating conditions are continuously achieved minimizing emissions of dioxins and organics, the original intent of the PPSC furnace temperature limit.

According to the applicant, the original objective of furnace temperature requirements was to assure combustion conditions were sufficient for maximum destruction of organics in the combustion zone. US EPA, in the development of the MWC standards and Emissions Guidelines under Subpart Eb and Cb, was concerned that imposing furnace temperature requirements could be counter productive since air/fuel mixing would be adversely impacted. To maintain furnace temperature at full boiler load generally requires a decrease in total boiler excess air, which is accomplished by decreasing the relative amount of overfire air. With decreasing overfire air, overfire air penetration into the secondary combustion zone will be reduced. Consequently, air/fuel mixing will be reduced, which results in reduced oxidation/destruction potential for organics. The applicant states that a furnace temperature requirement does not address the secondary formation of dioxins on flyash or particulate matter in the low temperature sections of the boiler and particulate control equipment. This secondary formation of dioxins has the largest potential impact on boiler dioxin emissions and is directly addressed by limiting carryover of particulate matter/flyash and minimizing operating temperature of the particulate control equipment, which compliance with the Subpart Cb GCP requirements ensure.

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The applicant adds that complying with the Subpart Cb CO limit ensures that both optimum furnace/temperature conditions and good air/fuel mixing are being maintained. Limiting boiler steam flow to the average steam flow achieved during annual compliance tests minimizes particulate carryover to the cooler section of the boiler and PM control device reducing potential for low temperature dioxin formation. Finally, minimizing particulate control device operating temperature to within 30°F of that achieved during compliance tests ensures that low temperature post-combustion dioxin formation is minimized.

The applicant cites the USEPA conclusion that the three major components of the GCP standard under NSPS Subparts Ea, Eb, and Cb are the most effective mechanisms for ensuring optimum combustion conditions, maximizing organic destruction, and minimizing the potential for post-combustion zone formation of organics. The three components of GCP include: 1) a short term CO emission limit, 2) restricting maximum boiler operating conditions using a steam flow limit and 3) restricting operating temperatures in the particulate control equipment.

The Department's Bureau of Air Regulation concurs with the applicant and this requirement is deleted and replaced with the good combustion practices (GCP) outlined in the 40 CFR 60, Subpart Cb.

In fact, the EPA spent a substantial amount of resources investigating, developing, and documenting GCS. The EPA's first effort resulted in a report on the combustion control of organics (Municipal Waste Combustion Study: Combustion Control of Organics, EPA/530-SW-87-021c, June 1987). In reviewing these recommendations, EPA decided that only three parameters would be required to demonstrate continuous compliance with GCP. These include a "CO emission limit to insure operation at combustion conditions which are indicative of the furnace destruction of organics, a load limit which is to control the amounts of PM which are carried out of the combustor with flue gases, and a temperature limit at the inlet of each PM control device to control formation of CDD/CDF within each control device"¹.

3.6. *Metal Recovery Facility*

The applicant is proposing to install equipment and facilities, pursuant to Rule 62-701.700 F.A.C, to expand the removal of recoverable metals from the bottom ash generated by the facility. The proposed metal recovery system involves a series of conveyors and mechanical devices that will separate the ferrous and non-ferrous metals from the bottom ash of the MSW fired boilers. The processing will occur in a new enclosed building to be located adjacent to the existing ash loadout area. All bottom ash is currently quenched with water after leaving each boiler. The resulting bottom ash will be about 20 to 30 percent moisture and will not generate fugitive dust.

The Department's Bureau of Air Regulation concurs with the applicant and allows the construction of this facility since no fugitive dust emissions are expected.

3.7 *Selective Non Catalytic Reduction (SNCR) System*

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To comply with the NO_x emission limits specified in Subpart Cb, the applicant is proposing to install a selective non-catalytic reduction (SNCR) system. The following is the applicant's description of the proposed system:

The proposed retrofit will store, convey, and inject aqueous urea into the furnace of each boiler immediately above the over fire air zone. The SNCR system will use urea, instead of ammonia, to provide the reducing reaction with NO_x forming nitrogen and water. The reaction occurs across a wider temperature range than ammonia and reduces the potential health and safety risks associated with the release of ammonia during handling or storage. Ammonia slip is generally controlled to less than 50 ppmvd at 7 percent O₂.

The SNCR unit will be designed to allow the concentrated reagent to be delivered to the facility in a heated, self-unloading tanker truck and transferred to a heated fiberglass reinforced plastic tank for on site storage. The tank will provide approximately one-two weeks of storage capacity under normal operating conditions.

A common circulation module transfers the chemical from the storage tank to the individual boiler metering modules. A recirculation pump and a supplemental electric heater, both located on the circulation module, provide agitation and heating capability. Flow and pressure control of the urea and dilution water fluids used in the SNCR process is performed with the metering modules. Metering of the concentrated reagent, dilution of the reagent with water and mixing of the resulting solution is also accomplished at these modules. The diluted reagent is pumped to the distribution modules where the individual distribution panels are located. The panel regulates the compressed air and diluted reagent flows to the individual fluid injection nozzles.

The Department's Bureau of Air Regulation allows the installation of the SNCR system to reduce NO_x emissions to comply with the 40CFR Subpart Cb NO_x standard.

4. PROCESS DESCRIPTION

4.1 *General Information*

The facility is a waste-to-energy installation employing mass burning of solid waste, heat recovery as superheated steam, and power generation in a steam electric cycle. Other than landfilling, this is the most common method of solid waste disposal in the United States. There are twelve such facilities in the State of Florida. The following is a general description of the process.

Waste is received via transfer, roll-off, or collection vehicles. All waste is taken to the Refuse Receiving Building, where it is deposited onto the tipping floor or into the Refuse Storage Pit. The refuse is stored at this location until needed to charge the combustion units.

Charging of the combustion units is accomplished using overhead cranes equipped with "orange peel" grapples. These stack, mix, and relocate waste within the pit and transfer it into the feed hoppers serving each unit. The waste enters the three refuse-fired steam generators, each of which consists of an integrated mass-burn furnace and boiler.

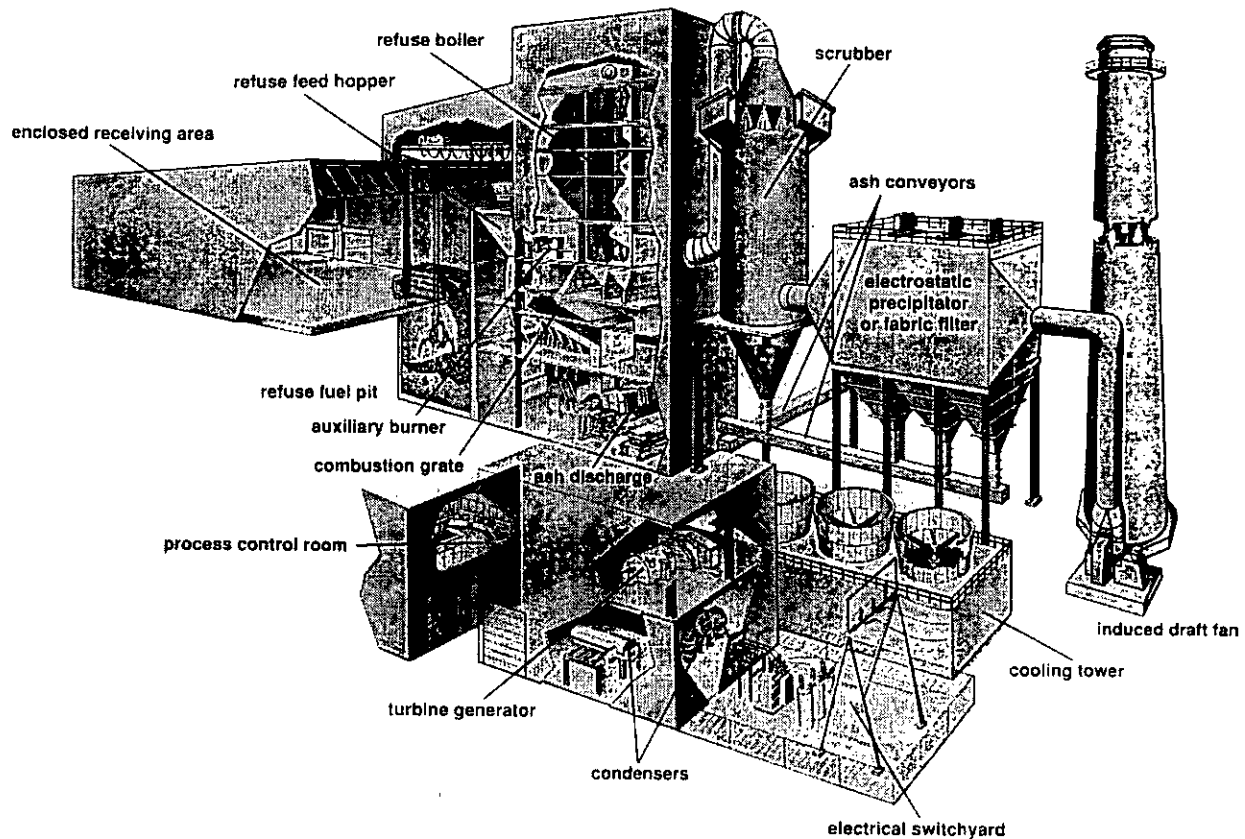
Combustion air is drawn from the refuse tipping area (assisting in odor control) and conveyed through the gas side of the air preheater and into the refuse-fired generators where the waste is combusted. Exhaust gases from the refuse-fired generators pass through an economizer units and

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are ducted to the air pollution control systems which consists of spray dryer adsorbers and fabric filter bag houses. Treated gases are exhausted to the atmosphere through three individual flues within a single 195 foot stack. Bottom ash from the furnaces is removed, quenched and processed for metal recovery and disposal.

The superheated steam from each boiler enters a turbine where it is expanded. The turbine powers a single 67.6 megawatt electric power generator. The electric power is introduced into the electrical grid and is purchased by the local utility.

A diagram of the Waste-to-Energy System follows:



4.2 Operating Window

Wheelabrator operates the plant within a so-called 108 percent "operating window," or ~807 tons per day normalized around the previous nominal capacity of ~747 tons per day at a waste heat content of 4,500 Btu per pound (Btu/lb). Because of the wide range in waste heat content, Wheelabrator wants to continue with sufficient flexibility to burn more waste to achieve the desired steam production (186,000 lb/hr), particularly when waste heat content is low. This is a common and recognized industrial and regulatory practice. This permitting action will not revise the allowed operating window but will clarify maximum rated capacities of the units in terms of waste throughput, heat input and steam flow consistent with the above operating window {refer to the permitting note of the revised permit PSD-FL-112 (B)}.

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It is expected that Wheelabrator will provide the Department with an updated engineering assessment of the maximum rated capacities of the units in terms of waste throughput, heat input and steam flow consistent with the allowable steam flow of 186,000 lb/hr of steam before the issuance of this final permit modification.

5. RULE APPLICABILITY

This facility is located in Broward County, an area designated as attainment for all criteria pollutants in accordance with Rule 62-204.360, F.A.C.

Because the project, as proposed, is expected to reduce NOx air emissions it would not normally be considered a modification under Chapters 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). However the applicant plans to burn a more varied slate of wastes, thus creating at least the potential for an emission increase of at least one air pollutant. Therefore the project must be assessed for permitting requirements and preconstruction review requirements. Because some of these changes, including the proposed emission limits and requested deletion of the VOC, SAM, HF BACT limits affect existing PSD permit conditions, a permit modification is required whether or not the project constitutes a facility or source modification.

The proposed project is not subject to review under Chapter 62-212, specifically Rule 62-212.400 F.A.C., Prevention of Significant Deterioration (PSD), because the potential emission increases for each pollutant do not exceed the significance emission rates given in Chapter 62-212, Table 62-212.400-2, F.A.C. The professional engineer's certification states that there is not a net emissions increase (no change in actual emissions), as defined in Rule 62-212.400(e), F.A.C for any pollutant from the proposed revision to PSD-FI-112 (Golder Associates's letter of April 9, 1999). In the case of NOx, the only pollutant affected by this PCP, there would be an emissions reduction due to the addition of the Non Selective Non-Catalytic Reduction.

Despite the burning of more varied waste slate requested concurrently with the existing pollution control system, actual emissions of all pollutants will probably decrease or remain the same. Emissions of NOx will be reduced with the installation of SNCR system.

A pollution control project (PCP), as is the installation of the SNCR system to control NOx emissions, that is added, replaced, or used at an existing electric utility steam generating unit and that meets the requirements of 40 CFR 52.21 (b) (2)(iii)(h) is not subject to the preconstruction review requirements of this rule.

Pursuant to 40 CFR 52.21 (b)(2)(iii)(h), "a physical change or change in the method of operation shall not include the addition, replacement or use of a pollution control project at an existing electric utility steam generating unit, unless the Administrator determines that such addition, replacement, or use renders the unit less environmentally beneficial, or except: (1) When the Administrator has reason to believe that the pollution control project would result in a significant net increase in *representative actual annual emissions* of any criteria pollutant over levels used for that source in the most recent air quality impact analysis in the area conducted for the purpose of Title I, if any, and (2) The Administrator determines that the increase will cause or contribute to a violation of any national ambient air quality standard or PSD increment, or visibility limitation".

Because the three combustors and each turbine and generator comprise an *electric utility steam generating unit* with a capacity greater than 25 megawatts, the Department can alternatively review

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PSD applicability by comparing past actual emissions with *representative future actual annual emissions*.

The main rules applicable to this project are 40CFR60, Subpart Cb - Emission Guideline and Compliance Times for Municipal Waste Combustors That Are Constructed on or Before December 19, 1995 (the Emission Guideline) and Rule 62-296.416, F.A.C., Waste-to-Energy Facilities. Physical or operational changes made to an existing unit primarily for the purpose of compliance with the Emission Guideline are not considered in determining whether the unit is a modified or reconstructed facility under 40CFR60, Subparts Ea or Eb. The latter subparts are Standards of Performance for MWCs on which construction commenced after December 20, 1989 and September 20, 1994, respectively. The Emission Guideline and the other Subparts are all adopted by reference in Rule 62-204.800(7) and (8), F.A.C.

This facility is not subject to the Maximum Achievable Control Technology (MACT) for Hazardous Air Pollutants (HAPs) requirements pursuant to Section 112(g) of the Clean Air Act since the addition of the SNCR to comply with the NO_x standard does not constitute reconstruction of a major source. The Emission Guideline under Subpart Cb, with which the facility will comply, was developed pursuant to Section 129 (Solid Waste Combustion) of the Clean Air Act as amended in 1990. It requires and achieves the same objectives as MACT for existing facilities.

This facility shall comply with all applicable provisions of the following regulations:

- 40 CFR 60 Subpart Cb Emissions Guidelines and Compliance Times for Existing Municipal Waste Combustors Constructed on or Before December 19, 1995.
- 40 CFR 51 Subpart P Protection of Visibility.
- 40 CFR 60, Subpart Db Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units.
- 40 CFR 60, Subpart E Standards of Performance for Incinerators.
- 40 CFR 60, Subpart A General Provisions
- 40 CFR 61, Subpart C National Emission Standard for Beryllium
- 40 CFR 64 Compliance Assurance Monitoring Rule
- 40 CFR 50 National Primary and Secondary Ambient Air Quality Standards

This facility is also subject to the applicable requirements related to used fuels and wastes given in 40CFR279, 40CFR273 and 40CFR261 (July 1998 version), which are adopted by reference in Chapters 62-710, 62-737 and Chapter 62-730, F.A.C.

The emission units affected by this revision shall comply with all applicable provisions of the Florida Administrative Code (including applicable portions of the Code of Federal Regulations incorporated therein) and, specifically, the following Chapters and Rules:

Chapter 62-17	Electric Power Siting
Chapter 62-4	Permits.
Rule 62-204.220	Ambient Air Quality Protection
Rule 62-204.240	Ambient Air Quality Standards
Rule 62-204.260	Prevention of Significant Deterioration Increments
Rule 62-204.360	Designation of Prevention of Significant Deterioration Areas
Rule 62-204.800	Federal Regulations Adopted by Reference
Rule 62-210.300	Permits Required

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Rule 62-210.350	Public Notice and Comments
Rule 62-210.370	Reports
Rule 62-210.550	Stack Height Policy
Rule 62-210.650	Circumvention
Rule 62-210.700	Excess Emissions
Rule 62-210.900	Forms and Instructions
Rule 62-212.300	General Preconstruction Review Requirements
Rule 62-212.400	Prevention of Significant Deterioration
Chapter 62-213	Operation Permits for Major Sources of Air Pollution
Chapter 62-214	Requirements For Sources Subject To The Federal Acid Rain Program
Rule 62-296.320	General Pollutant Emission Limiting Standards
Rule 62-297.310	General Test Requirements
Rule 62-297.401	Compliance Test Methods
Rule 62-296.410(3)	Specific Emission Limiting and Performance Standards Requirements for Incinerators
Rule 62-296.416	Waste to Energy Facilities
Chapter 62-256	Open Burning and Frost Protection Fires
Rule 62-297.570	Test Reports
Rule 62-297.520	EPA Continuous Monitor Performance Specifications

6. PROJECTED EMISSIONS

6.1 Emission Limitations

Emission Limits

The maximum allowable short-term emission limits for the facility before and after implementation of the requested changes are as follows:

POLLUTANT	PERMITTED LIMIT	PROPOSED LIMIT
Sulfur Dioxide (SO ₂) ¹	129.8 ppm @ 7% O ₂	29 ppmdv @ 7% O ₂ or 75% removal
Sulfur Dioxide (SO ₂) ²	58.6 ppm @ 7% O ₂	
Volatile Organic Compounds (VOC) ^(c)	0.013 lb/MMBtu	none - CO is surrogate
Particulate Matter (PM) ^{3(a)(b)}	34.9 mg/dscm @ 7% O ₂	27 mg/dscm @ 7% O ₂ ⁽⁹⁾
Particulate Matter (PM) ⁴	111.3 mg/dscm @ 7% O ₂	
Particulate Matter (PM) ⁵	186.0 mg/dscm @ 7% O ₂	
Nitrogen Oxides (NO _x) ^{6(a)(b)}	325.9 @ 7% O ₂	205 ppmdv @ 7% O ₂ (24-hr) ⁽⁹⁾
Carbon Monoxide (CO) ^{7(a)(b)}	406.4 ppm @ 12% CO ₂	100 ppmdv @ 7% O ₂ (4-hr) ⁽¹⁰⁾
Carbon Monoxide (CO) ^{7(a)(b)}	86.9 ppm @ 7% O ₂	87 ppmdv @ 7% O ₂ (4-day rolling average)
Total Fluoride (F) ^{(a)(b)}	0.004 lb/MMBtu	None
Sulfuric Acid Mist (H ₂ SO ₄ or SAM) ^(c)	0.047 lb/MMBtu	None
Hydrogen Chloride (HCl)	None	29 ppmdv @ 7% O ₂ or 95% removal
Beryllium (Be) ^{(a)(c)}	9.30 E-07 lb/MMBtu	None
Lead (Pb) ^{(a)(b)}	0.0015 lb/MMBtu	440 ug/dscm @ 7% O ₂ ⁽⁹⁾
Mercury (Hg) ^{(a)(c)}	0.84 mg/dscm @ 7% O ₂	70 ug/dscm @ 7% O ₂ or 85% removal ⁽⁹⁾
Dioxins/Furans	None	30 ng/dscm @ 7% O ₂ ⁽⁹⁾
Cadmium (Cd)	None	40 ug/dscm @ 7% O ₂ ⁽⁹⁾
VE10		10% ⁽¹¹⁾
VE15 ^{(a)(b)}		NA
VE20 ^(b)		NA

Basis: Table 4-2 Wheelabrator - North Broward Waste to Energy Facility Emission Limits submitted on December 7, 1998.

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1. And 124 ppm at 12% CO₂-dry not to exceed: 3-hour rolling average
2. And 60 ppm at 12% CO₂-dry; or 65% removal: 3-hour rolling average
3. Corrected to 12% CO₂-dry (MCC)
4. 40 CFR 60.43b(d)
5. @ 50% air- 296.401(3)(a)
6. And 350 ppm at 12% CO₂: 3-hour rolling average
7. And 400 ppm at 12% CO₂-dry: 1-hour rolling average: 88 ppm at 12% CO₂- dry: 4-day rolling average
8. Rule 62-296.320 (4)(b) (1)
9. Corrected to 7% O₂ (dry): FDEP limit
10. Corrected to 7 O₂ (dry); 4-hour block average
11. 6 min block average
 - a. PSD-FL-105 Part 1.1.a
 - b. Final Order Modifying Conditions of Certification No. 85-2; (4/17/91)
 - c. Original PA-85-21

6.2 Recent Stack Test Results

The following is a summary of recent stack test results (converted using EPA Method 19) from each combustor and the comparison with the limits of 40 CFR 60 Subpart Cb. As the table shows, except for the NO_x standard, all the standards are well below the applicable Subpart Cb limits. It is expected pursuant to 40 CFR 52.21 (b)(2)(iii)(h), that this project as proposed would not have significant increase in representative actual emissions of any pollutant. A selective non-catalytic system (SNCR) will be installed for the control of NO_x.

POLLUTANT	UNITS	EMISSIONS 001	EMISSIONS 002	EMISSIONS 003	SUBPART Cb
SO ₂	ppm @ 7 % O ₂	3.54	7.74	3.73	29
NO _x	ppm @ 7 % O ₂	272.39	220.01	239.80	205
CO	ppm @ 7 % O ₂	10.52	17.21	14.34	100
PM	mg/dscm @ 7 % O ₂	3.67	7.90	1.00	27
Pb	mg/dscm @ 7 % O ₂	0.010	0.016	0.004	0.49
Hg	ug/dscm @ 7 % O ₂	12.8	20.5	14.8	70
Dioxins/Furans	ng/dscm @ 7 % O ₂	0.68	NC	NC	30
Opacity	Percent	0%	0%	0%	10%

Source:

Table 4-3 Summary of Recent Stack Test Results (3/98) as compared to Limits of 40 CFR 60 subpart Cb North Broward Resource Recovery Facility. Wheelabrator's request dated December 7, 1998.

6.3 Control Technology Review

There will be no change to the existing emissions control systems for acid gases and particulate matter. Each unit is equipped with a spray dryer adsorber and a fabric filter baghouse system. New proposed selective non catalytic reduction (SNCR) system will be

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installed to control NOx emissions. This facility chose to control mercury emissions by implementation of a mercury waste separation program.

6.4 Emissions Summary

[EMISSION UNIT Nos. -001, -002 or -003]

Pollutants	Current Allowable		New Allowable		Net Increase or Decrease ton/yr
	lb/hr	ton/yr	lb/hr	ton/yr	
PM/PM ₁₀	9.5	41.6	7.35	32.2	-9.4
SO ₂	66.3	290.0	32.8	143.5	-146.5
NOx	169.3	741.5	106.5	466.4	-275.1
CO	27.2	119.2	31.8	139.1	19.9
Mercury	0.23	0.96	0.019	0.08	-0.9
Beryllium	2.81E-04	1.20E-03	2.81E-04	1.20E-03	0
HCL	None	None	11.71	51.3	0
Dioxins	None	None	8.20E-06	3.60E-05	0
Cadmium	None	None	0.011	0.048	0
Lead	0.45	1.98	0.133	0.58	-1.4

Source: Table 1. Allowable Emissions for North Broward Resource Recovery Facility. Golder Associates' letter dated April 9, 1999.

6.5 Air Quality Analysis

6.5.1 Introduction

An air quality analysis was not required for this project.

7. CONCLUSION

Based on the foregoing technical evaluation of the application submitted by Wheelabrator North Broward, Inc., the Department has made a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations provided certain conditions are met. The Specific Conditions are listed in the attached draft permit amendment.

NSR Administrator: A.A. Linero, P.E.

Permit Engineer: Teresa M. Heron

REFERENCES

¹ EPA-453/R-95-0136 Municipal Waste Combustion, Background Information Document for Promulgated Standards and Guidelines- Public comments and Responses. October 1995.

Project: Compliance with Subpart Cb
Wheelabrator North Broward, Inc.

Facility I.D. No. 0112120
PSD- FL-112B and PA 86-22

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF PERMIT MODIFICATION

In the Matter of an
Application for PSD Permit Modification

Wheelabrator North Broward, Inc.
2600 N. W. 48th Street
Pompano Beach, Florida 33073

DEP File No. PSD-FL-112(B)
Metals Recovery and Pollution Control Project
Broward County

Enclosed is the PSD Permit Modification Number PSD-FI-112 (B). This modification is to revise the existing PSD permit for clarification of the permitted fuels allowed to be combusted at the North Broward Resource Recovery Facility, and to install a selective non-catalytic reduction system for NO_x control. Additional requested revisions to the permit are to replace the 300 °F temperature limit at the acid control device (fabric filter outlet) with the Subpart Cb particulate control device inlet temperature and to eliminate the furnace temperature requirements by incorporation of the good combustion practices (GCP) specified in Subpart Cb. This modification will also allow Wheelabrator to install equipment and facilities to expand the removal of recoverable metals from the bottom ash generated by the facility. This permit is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Legal Office; 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 of Appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

Howard L. Rhodes, Director
Division of Air Resources
Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT MODIFICATION (including the PSD permit Modification) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on _____ to the person(s) listed:

Thomas D. Kirk, Plant Manager, Wheelabrator North Broward, Inc. *
Ken Kosky, P.E
Gregg Worley, EPA
Isidore Goldman, P.E, FDEP SED
Daniela Banu, Director, BCDNRP
Buck Oven, P.E, DEP/PPSC

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED on this date,
pursuant to §120.52(7), Florida Statutes, with the designated
Department Clerk, receipt of which is hereby acknowledged.

(Clerk)

(Date)

**PSD PERMIT MODIFICATION
PSD-FL-112 (B)**

SPECIFIC CONDITIONS

PSD-FL-112 is hereby modified as follows:

1. Emission Limitations

a. Stack emissions from each unit shall not exceed the following:

- Particulate: _____ 0.0150 gr/dscf dry volume corrected to 12% CO₂.
- Sulfur Dioxide: _____ (1) _____ 0.140 lb/MMBtu heat input and 60 ppm (3 hr rolling _____
 _____ average, dry volume, corrected to 12% CO₂); or
- _____ (2) _____ 65% reduction of uncontrolled SO₂ emissions.* In no case _____
 _____ shall the SO₂ emissions exceed 0.310 lb/MMBtu heat input _____
 _____ and 124 ppm (3 hr rolling average, dry volume, corrected _____
 _____ to 12% CO₂).

The 124 ppm limit above shall be modified to reflect a new emission limit (in ppm) from the control device at 65% control efficiency. Within 18 months of start up of operation, the County shall submit compliance tests that will be used to determine the new SO₂ emission limit (in ppm). The limit will be determined by observed average emission rate (\bar{u}) from the submitted compliance tests and will be statistically analyzed using the one-tailed student T test ($t_{.05} + (x - \bar{u}) / n$) at the 95% confidence level to derive a mean emission rate (\bar{x}), where s is the standard deviation of observed values n . The final operating SO₂ emission limit (in ppm) shall be this mean emission rate (\bar{x}). This value shall be restricted to no more than 124 ppm or less than 60 ppm (3 hr rolling average, dry volume, corrected to 12% CO₂).

Nitrogen Oxides: _____ .560 lb/MMBtu heat input and 350 ppm (3 hr rolling _____
 _____ average, dry volume corrected to 12% CO₂).

Carbon Monoxide: _____ .090 lb/MMBtu heat input; 400 ppm (1 hr rolling average, _____
 _____ dry volume, corrected to 12% CO₂); and 88 ppm (4 day _____
 _____ rolling average, dry volume, corrected to 12% CO₂).

Lead: _____ .00056 lb/MMBtu

Fluorides: _____ .0040 lb/MMBtu

Beryllium: _____ 9.30×10^{-7} lb/MMBtu

Mercury: _____ 7.50×10^{-4} lb/MMBtu

1. EMISSIONS LIMITATIONS

a. The following emissions standards apply to the following emissions units after improvements to comply with 40 CFR Subpart Cb are completed.

EMISSIONS UNIT NO.	EMISSIONS UNITS DESCRIPTION
001	280 MMBtu/hr (nominal) Municipal Waste Combustor & Auxiliary Burners - Unit No.1
002	280 MMBtu/hr (nominal) Municipal Waste Combustor & Auxiliary Burners - Unit No.2
003	280 MMBtu/hr (nominal) Municipal Waste Combustor & Auxiliary Burners - Unit No.3

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{Permitting Note: Each of the three municipal waste combustor (MWCs) shall have a *nominal* design rate capacity of 747 tons MSW per day (a maximum of 807 tons per day), 280 MMBtu per hour with MSW having a heating value of 4,500 Btu per pound. The "operating window" of 108 percent (%) over the nominal design rate of 280 MMBtu heat input corresponds to 302.5 MMBtu/hr heat input and a maximum of 186,000 lb steam/ hour (5,600 BTU/lb heating value. Short-term capacity is limited by limiting steam production (maximum of 186,000 lb/hr), which effectively limits heat input.

POLLUTANT	EMISSIONS STANDARDS	EQUIVALENT EMISSIONS		
		LB/MMBtu	LB/HR	TON/YR
PM ⁽¹⁾ Particulate Matter	27 mg/dscm or 0.012 gr/dscf corrected to 7% O ₂	0.024	7.35	32.2
VE Visible Emissions	10 % (6 min. block avg.)			
Cd Cadmium	0.040 mg/dscm corrected to 7% O ₂	3.6E-05	0.011	0.048
Be ⁽²⁾ Beryllium	0.001 mg/dscm corrected to 7 % O ₂	9.3E-07	0.0003	0.0012
Pb Lead	0.44 mg/dscm corrected to 7% O ₂	4.4E-04	0.133	0.58
Hg Mercury	70 ug/dscm or 85% reduction by weight or volume corrected to 7% O ₂ (whichever is less stringent)	6.3E-05	0.019	0.08
SO₂ Sulfur Dioxide	29 ppmv or 75% reduction by weight or volume corrected to 7% O ₂ (whichever is less stringent)	0.116 or 75% reduction @ 7% O ₂	32.8 or 75% reduction @ 7 % O ₂	143.5
HCl Hydrochloric Acid	29 ppmv or 95% reduction corrected to 7% O ₂ (whichever is less stringent)	0.042 or 95% reduction @ 7% O ₂	11.7 or 95% reduction @ 7% O ₂	51.3
Dioxins/Furans	30 ng/dscm corrected to 7% O ₂	2.7 E-08	8.2E-06	3.6E-05
CO Carbon Monoxide	100 ppmv corrected to 7% O ₂	0.105	31.8	139.1
NOx ⁽²⁾ Nitrogen Oxides	205 ppmv corrected to 7% O ₂	0.35	106.5	466.4

These maximum allowable emission rates are applicable to each MWC combustor unit. [Rules 62-4.070, and 62-296.416, F.A.C., 40 CFR 60.33b and 40 CFR 60.34b]

For fluoride, the permittee shall conduct initial performance test to demonstrate that the burning of the requested fuels do not exceed the BACT original permitted emission level. No annual testing is required.

F Fluorides	To be demonstrated initially Not to exceed 0.0040 lb/MMBtu	0.0040	1.21	5.29
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Notes:

- (1) This limit for PM is more restrictive than the emission limit for PM in 40 CFR 60.43b
 (2) Beryllium: PSD original permit limit. Not to exceed applicable NESHAP, 40 CFR 61.32 (a)(Subpart C).

Basis: Equivalent emissions calculations (lb/hr and ton/yr) are based on the maximum heat input rate of 302.5 MMBtu/hr and 186,000 lb steam/hr [108 % rated capacity] per unit and 8760 hours of operation. Nominal rated capacity of each boiler is 747 tons waste per day. Nominal heat input capacity is 280 MMBtu/hr. Short-term capacity is limited by limiting steam production (186,000 lb steam/hr) which effectively limits heat input.

Averaging Times

- SO₂: 24-hour daily block geometric mean (midnight to midnight)
 NO_x: 24-hour daily block arithmetic mean (midnight to midnight)
 CO: 4-hour block arithmetic mean beginning at midnight
 Opacity: 6 minutes block arithmetic mean

Abbreviations

ug/dscm: Micrograms per dry standard cubic meter

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mg/dscm: Milligrams per dry standard cubic meter
ppmdv: Part per million dry volume
ng/dscm: Nanograms per dry standard cubic meter
Dioxins/ furans: Total tetra through octa-chlorinated dibenzo-p dioxins and dibenzofurans
F: Fluorides as hydrogen fluoride

Temperature: 17° C above maximum demonstrated PM control device inlet

~~Visible Emissions: Opacity of stack emissions shall not be greater than 15% opacity. Excess opacity resulting from startup or shutdown shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess opacity shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by EPA for longer duration.~~

a.(2) Visible Emissions:

No owner or operator of this facility shall cause to be discharge to the atmosphere visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) in excess of 5 % of the observation period (i.e., 9 minutes per 3-hour period) as determined by EPA Reference Method 22.

[Rule 62-204.800(8), F.A.C., 40 CFR 60.36b; 60.55b and 62-4-070(3) F.A.C.]

~~The units are subject to 40 CFR 60 Subpart E, and Subpart Db, New Source Performance Standards (NSPS), except that where requirements in this permit are more restrictive, the requirements in this permit shall apply.~~

a. (3) Applicable Requirements:

These units are subject to all applicable requirements of 40 CFR 60 Subpart Cb, Emissions Control Guidelines and Compliance Schedules for Municipal Solid Waste Combustors, Subpart E, NSPS for Incinerators, Subpart Db NSPS for Industrial-Commercial-Institutional Steam Generating Units, 40CFR61 Subpart C, NESHAP for Beryllium and Rule 62-296.416 F.A.C., Waste-to-Energy Facilities, except that where requirements in this permit are more restrictive, the requirements in this permit shall apply.

[PSD-FL-112, 40CFR60 Subparts Cb, E, Db and 40CFR61 Subpart C]

~~There shall be no greater than 10% opacity for emissions from the refuse bunker and the ash handling and loadout. The potential for dust generation by ash handling activities will be mitigated by quenching the ash prior to loading in ash transport trucks. Additionally, all portions of the proposed facility including the ash handling facilities which have the potential for fugitive emissions shall be enclosed. Also, those areas which have to be open for operational purposes (e.g., tipping floor of the refuse bunker while trucks are entering and leaving) will be under negative air pressure.~~

a.(4) Ash Handling Facilities:

There shall be no greater than 5% opacity for emissions from the refuse bunker and the ash handling and loadout. The potential for dust generation by ash handling activities will be mitigated by quenching the ash prior to loading in ash transport trucks. The ash handling facilities shall be enclosed (*including the metal recovery area*). Unprocessed refuse storage areas which must be open for operational purposes (e.g., tipping floor of the refuse bunker while trucks are entering and leaving) will be under negative air pressure. Residue from the grates, grate siftings, and ash from the combustor/boiler and fabric filter hoppers during normal operations shall be discharged into the ash quenching system to minimize visible dust. The ash/residue in the Ash Handling Building shall remain sufficiently moist to prevent dust during storage and handling operations.

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[Rule 62-204.800(8), F.A.C., 40 CFR 60.36b; 60.55b and 62-4-070(3) F.A.C.]

b. No change

c. (1) ~~None of the three individual municipal waste incinerators shall be charged in excess of 302.5 MMBtu/hr and 806.6 tons per day MSW (108% rated capacity) nor produce 186,000 lb/hr steam (3-hr rolling average).~~

c.(1) Operating Rates:

The maximum individual MWC throughput shall not exceed 807 tons MSW per day (2420 tons per day entire facility), 302.5 MMBtu per hour and 186,000 pounds steam per hour (108 % of the nominal design rate) based on a 4-hour block arithmetic average. The incinerators/boilers shall not be loaded in excess of their maximum operating capacity of 33.60 tons MSW per hour each, equivalent to 2420 tons MSW per day total, but no more than 2241 tons MSW per day on an annual (52 week rolling average) average basis for the entire facility. (Compliance per new Specific Conditions c.(2) listed below)

[Rule 62-204.800(8), F.A.C., 40 CFR 60.31b; 60.38b; 60.51b, and 60.58b(j)]
[PSD-FL-121(B)/PA 85-21 and Rule 62-4.030(3), F.A.C.]

c. (2) ~~The temperature of the flue gas exiting the final combustion chamber of the incinerator shall not be less than 1800°F.~~

This condition is deleted. The rationale is explained in the Technical Evaluation and Preliminary Determination dated May 20, 1999. A new specific condition, as stated below, will use this c. (2) numeration

New Specific Condition c.(2) Compliance with the Continuous Charging Rate:

The daily solid waste charging rate and hours of operation shall be determined and recorded for each MWC unit. The daily charging rate shall be determined each month on an average daily basis for each MWC unit using the Facility's truck scale weight data, refuse pit inventory, and MWC operating data for the preceding calendar month. Monthly truck scale weight records on the weight of solid waste received and processed at the Facility and refuse pit inventory shall be used to determine the amount of solid waste charged during the preceding calendar month on an average daily basis. The MWC load level measurements or other operating data shall be used to determine the number of operating hours per MWC unit for each day during the preceding calendar month. [Rule 62-204.800(8), F.A.C., and 40 CFR 60.53(a)]

New Specific Condition c.(3) Load Level :

Unit load means the steam load of the municipal waste combustor (MWC) measured as specified in 40 CFR 60.58b(i)(6). Each MWC unit shall not operate at a load level greater than 110 percent of the unit's "maximum demonstrated unit load." The maximum demonstrated unit load is the highest 4-hour arithmetic averaged MWC unit load achieved during four consecutive hours during the most recent dioxin/furan performance stack test in which compliance with the dioxin/furan emission limit was achieved. Higher loads are allowed for testing purposes as specified at 40 CFR 60.53b(b). [Rule 62-204.800(8), F.A.C., 40 CFR 60.31b; 60.38b; 60.51b; 60.53b(b); and 60.58b(i)(8)]

New Specific Condition c.(4) Compliance With Load Level Requirements:

The owner or operator of an affected facility with steam generation capability shall install, calibrate, maintain, and operate a steam flow meter or a feedwater flow meter; measure steam (or

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feedwater) flow in kilograms per hour (or pounds per hour) on a continuous basis; and record the output of the monitor (in accordance with the ASME method described in 40 CFR 60.58b(i)(6). Steam (or feedwater) flow shall be calculated in 4-hour block arithmetic averages. Higher loads are allowed for testing purposes as specified at 40 CFR 60.53b(b). [Rule 62-204.800(8), F.A.C., 40 CFR 60.31b; 60.38b; 60.51b; 60.53b(b); and 60.58b(i)(6)]

d. Compliance Tests

- (1)
 - a. No change. *This condition would be updated in the Title V permit for this facility.*
 - b. No change. *This condition would be updated in the Title V permit for this facility.*
 - c. ~~Compliance with the emission limitations for 65% control of total sulfur dioxide emissions shall be determined by using the test methods in condition 1.d.(2) and sampling for SO₂ emissions before and after the acid gas control device. Continuous emissions data shall also be used to demonstrate compliance with the SO₂ concentration limits in condition 1.a above.~~
- (2) The following test methods and procedures for 40 CFR 60 and 61 shall be used for compliance testing:
 - a. Method 1 for selection of sample site and sample traverses
 - b. Method for determining stack gas flow rate when converting concentrations to or from mass emission limits.
 - c. Method 3 for analysis for calculation of percent O₂ and CO₂
 - d. Method 4 for determining stack gas moisture content to convert the flow rate from actual standard cubic feet to dry standard cubic feet for use in converting concentrations in dry gases to or from mass emission limits.
 - e. ~~Method 5 for concentrations of particulate matter and associate moisture content. One sample shall constitute one test run.~~
 - f. ~~Method 9 for visible determination of the opacity of emissions.~~
 - g. ~~Method 6 for concentration of SO₂. Two samples, taken at approximately 30 minute intervals, shall constitute one test run.~~
 - h. ~~Method 7 for concentration of nitrogen oxides. Four samples, taken at approximately 15 minutes intervals, shall constitute one run.~~
 - i. ~~Method 10 for determination of CO concentrations. One sample constitutes one run.~~
 - j. ~~Method 12 for determination of lead concentration and associated moisture content. One sample constitutes one test run.~~
 - k. ~~Method 13B for determination of mercury emission rate and associated moisture content. One sample shall constitute one run.~~
 - l. ~~Method 101A for determination of mercury emission rate and associated moisture content. One sample shall constitute one test run.~~
 - m. ~~Method 104 for determination of beryllium emission rate and associated moisture content. One sample shall constitute one test run.~~

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d.(2) Stack Tests and Stack Test Methods:

Initial compliance tests for each combustion unit shall be conducted within 60 days after achieving maximum operating capacity, but not later than 180 days after startup. Annual tests shall be conducted within one year after the initial tests, unless otherwise allowed by the Department. A test protocol shall be submitted for approval to the Department's Southeast District office (DEPSED) and the Broward County Department of Natural Resources Protection (BCDNRP) at least 45 days prior to initial testing.

[Rule 62-204.800(8), F.A.C. and Chapter 62-297, F.A.C.]

Method 5 ⁽¹⁾	Determination of Particulate Matter Emissions (front half catch only) from Stationary Sources (I) and (A).
Method 9	Visual Determination of the Opacity of Emissions from Stationary Sources (I) and (A).
Method 13A or 13 B	Determination of Total Fluoride Emissions from Stationary Sources (I) and (A).
Method 23 ⁽²⁾	Determination of Dioxin/furan concentration from Stationary Sources (I) and (A).
Method 26 ⁽³⁾ or 26A	Determination of HCl emissions (I) and (A).
Method 29 ⁽³⁾	Determination of Metals Emissions from Stationary Sources (I) and (A). Mercury emissions testing shall be conducted semiannually.

⁽¹⁾ Pursuant to 40 CFR 60.58b(c)(3) EPA Reference Method 5 shall be used for determining compliance with the particulate matter emission limit. The minimum sample volume shall be 1.7 cubic meters. The probe and filter holder heating systems in the sample train shall be set to provide a gas temperature no greater than 160 ± 14 °C. An oxygen or carbon dioxide measurement shall be obtained simultaneously with each Method 5 run.

⁽²⁾ Dioxin/Furan emission limit expressed as the total mass of tetra- through octa chlorinated dibenzo-p-dioxins and dibenzofurans. The facility may perform less frequent testing for dioxin/furan emissions, as allowed by 40 CFR 60.38b(b) and with prior notice to the Department, if the emission unit's dioxin/furan emissions do not exceed 15 ug/dscm corrected to 7% O₂ or less.

⁽³⁾ HCl and mercury stack tests upstream and downstream of the control device (s) shall be conducted to calculate percent control.

New Condition d.(3) Continuous Compliance with Emission Limits:

Continuous compliance with the emission limits for opacity, carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide (SO₂) listed above and the operational parameters (including but not limited to: oxygen measurements, steam production [lb/hr, pressure, and temperature] or feedwater flowrate [lb/hr], device to measure temperature of flue gas at the fabric filter inlet, carbon injection system operating parameters, temperature of the combustion zone, slake lime utilization, power generation, etc) shall be demonstrated by continuous emission monitoring systems (CEMS) operated in accordance with 40 CFR 60.58b and 60.59b(f). SO₂ monitors shall be located both upstream of the scrubber and downstream of the baghouse, in order to calculate percent removal efficiency. [Rule 62-204.800(8), F.A.C. and 40 CFR 60.38 (40 CFR 60.58b) and 62-4.070 F.A.C.]

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SPECIFIC CONDITION 7.

Fuel

~~The Resource Recovery Facility shall utilize refuse such as garbage and trash (as defined in Chapter 17-7, FAC) but not grease, scum, grit, screenings or sewage sludge.~~

7. The primary fuel for this facility is municipal solid waste (MSW), including the items and materials that fit within the definition of MSW contained in either 40CFR60.51b or Section 403.706 (5), F.A.C., Florida Statutes (1998).
- 7.a Subject to the limitations contained in this permit, the authorized fuels for the facility also include the other solid wastes that are not MSW which are described below. However, the facility shall not burn:
 - (1) those materials that are prohibited by state or federal law;
 - (2) those materials that are prohibited by this permit;
 - (3) those materials that are not authorized by this permit;
 - (4) lead acid batteries;
 - (5) hazardous waste;
 - (6) nuclear waste;
 - (8) radioactive waste;
 - (9) sewage sludge;
 - (10) explosives.
- 7.b The fuel may be received either as a mixture or as a single-item stream (segregated load) of discarded materials. If the facility intends to use an authorized fuel that is segregated non-MSW material, the fuel shall be either:
 - (1) well mixed with MSW in the refuse pit; or
 - (2) alternately charged with MSW in the hopper.
- 7.c The facility owner/operator shall prepare and maintain records concerning the description and quantities of all segregated loads of non-MSW material which are received and used as fuel at the facility, and subject to a percentage weight limitation, below (7.g and 7.h.). For the purposes of this permit, a segregated load is defined to mean a container or truck that is almost completely or exclusively filled with a single item or homogenous composition of waste material, as determined by visual inspection.
- 7.d To ensure that the facility's fuel does not adversely affect the facility's combustion process or emissions, the facility operator shall:
 - (1) comply with good combustion operating practices in accordance with 40 CFR 60.53b;
 - (2) install, operate and maintain continuous emissions monitors (CEMS) for oxygen, carbon monoxide, sulfur dioxide, oxides of nitrogen and *particulate control device inlet* temperature in accordance with 40 CFR 60.58b; and
 - (3) record and maintain the CEMS data in accordance with 40 CFR 60.59b.

These steps shall be used to ensure and verify continuous compliance with the emissions limitations in this permit.

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Natural gas may be used as fuel during warm-up, startup, shutdown, and malfunction periods, and at other times when necessary and consistent with good combustion practices.

- 7.f. Subject to the conditions and limitations contained in this permit, the following other solid waste may be used as fuel at the facility:
- (1) Confidential, proprietary or special documents (including but not limited to business records, lottery tickets, event tickets, coupons, *credit cards*, *magnetic tape* and microfilm);
 - (2) Contraband which is being destroyed at the request of appropriately authorized local, state or federal governmental agencies, provided that such material is not an explosive, a propellant, a hazardous waste, or otherwise prohibited at the facility. For the purposes of this section, contraband includes but is not limited to drugs, narcotics, fruits, vegetables, plants, counterfeit money, and counterfeit consumer goods;
 - (3) Wood pallets, clean wood, and land clearing debris and
 - (4) Packaging materials and containers;
 - (5) Clothing, natural and synthetic fibers, fabric remnants, and similar debris, including but not limited to aprons and gloves; or
 - (6) Rugs, carpets, and floor coverings, but not asbestos-containing materials or polyethylene or polyurethane vinyl floor coverings.
- 7.g. Subject to the conditions and limitations contained in this permit waste tires may be used as fuel at the facility. The total quantity of waste tires received as segregated loads and burned at the facility shall not exceed 3%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30 day average in accordance with specific condition No. 7.i. below.
- 7.h. Subject to the conditions and limitations contained in this permit, the following other solid waste materials may be used as fuel at the facility (i.e. the following are authorized fuels that are non-MSW material). The total quantity of the following non-MSW material received as segregated loads and burned at the facility shall not exceed 5%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30 day average in accordance with specific condition No. 7.i. below.
- (1) Construction and demolition debris.
 - (2) Oil spill debris from aquatic, coastal, estuarine or river environments. Such items or materials include but are not limited to rags, wipes, and absorbents.
 - (3) Items suitable for human, plant or domesticated animal use, consumption or application where the item's shelf-life has expired or the generator wishes to remove the items from the market. Such items or materials include but are not limited to off-specification or expired consumer products, pharmaceuticals, medications, health and personal care products, cosmetics, foodstuffs, nutritional supplements, returned goods, and controlled substances.
 - (4) Consumer-packaged products intended for human or domesticated animal use or application but not consumption. Such items or materials include but are not limited to carpet cleaners, household or bathroom cleaners, polishes, waxes and detergents.
 - (5) Waste materials that:
 - (i) are generated in the manufacture of items in categories (c) or (d), above and are functionally or commercially useless (expired, rejected or spent); or

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- (ii) are not yet formed or packaged for commercial distribution. Such items or materials must be substantially similar to other items or materials routinely found in MSW.
- (f) Waste materials that contain oil from:
 - (i) the routine cleanup of industrial or commercial establishments and machinery; or
 - (ii) spills of virgin or used petroleum products. Such items or materials include but are not limited to rags, wipes, and absorbents.
- (6) Used oil and used oil filters. Used oil containing a PCB concentration equal or greater than 50 ppm shall not be burned, pursuant to the limitations of 40 CFR 761.20(e).
- (7) Waste materials generated by manufacturing, industrial or agricultural activities, provided that these items or materials are substantially similar to items or materials that are found routinely in MSW, subject to prior approval of the Department.

7.i. Segregated Solid Waste Record Keeping:

The following records shall be made and kept to demonstrate compliance with the segregated non-MSW percentage limitations of specific condition 7.

Each segregated load of non-MSW materials, that is subject to the percentage weight limitation of specific conditions 7.g. and 7.h., which is received for processing shall be documented as to waste description and weight. The weight of all waste materials received for processing shall be measured using the facility truck scale and recorded.

Each day the total weight of segregated tires received shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days. The resultant 30 day total weight of tires shall be divided by the total weight of all waste materials received in the same 30 day period, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 3% limitation.

Each day the total weight of segregated non-MSW materials received that are subject to the 5% restriction shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days. The resultant 30 day total weight of segregated non-MSW materials shall be divided by the total weight of all waste materials received in the same 30 day period, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 5% limitation.

SPECIFIC CONDITION 8.c.

~~The temperature of flue gases exiting the acid gas control equipment shall not exceed 300°F.~~

8.c. Compliance with the PM Control Device Temperature:

Each MWC unit is required to continuously monitor and record the flue gas temperature at the inlet to the PM control device in accordance with the requirements at 40 CFR 60.58b(i)(7). The PM control device temperature shall be calculated in 4-hour block arithmetic averages. Each MWC unit shall be allowed to operate up to 17°C (30° F) above the unit's maximum demonstrated PM control device temperature. The maximum demonstrated PM control device temperature is the highest 4-hour arithmetic block-averaged measurement of temperature at the inlet to the PM control device recorded for 4 consecutive hours during the most recent

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dioxin/furan performance test which complied with the limits given above. The PM control device inlet temperature and the steam (or feedwater) flow for each unit during the stack test shall be continuously monitored and recorded in accordance with 40 CFR 60, Subpart Cb. Higher temperatures are allowed for testing purposes, as specified at 40 CFR 60.53b(c). [Rule 62-204.800(8), F.A.C. and 40 CFR 60.38b, 40 CFR 60.53b(c) and 60.58b(i)(7) and (9)]

NEW SPECIFIC CONDITIONS 12, 13, 14 and 15

12. METAL RECOVERY FACILITY

The metal recovery area will be enclosed in a building adjacent to the existing ash loadout area. All bottom ash is currently quenched with water after leaving each boiler. The resulting bottom ash will be about 20 to 30 percent moisture and will not generate fugitive dust.

13. ELECTRIC UTILITY STEAM GENERATING UNIT ACTUAL EMISSIONS

The permittee shall provide the Department within the period not longer than 10 years following the change, information demonstrating that the physical or operational change did not result in a "representative actual annual emissions" increase in accordance with Rule 62-210.200 (12)(d), F.A.C., and Rule 62-212.400, F.A.C.

[40 CFR 52.21(b)(33), Rule 62-4.070 (3), Rule 62-212.400, and Rule 62-210.200, F.A.C.]

14. SCHEDULE OF COMPLIANCE

The compliance schedule for each unit is provided below.

Increment 1: 2 months after EPA approval of the Florida State Plan

Increment 2: 8 months after EPA approval of the Florida State Plan

Increment 3: 24 months after EPA approval of the Florida State Plan

Increment 4: 34 months after EPA approval of the Florida State Plan

Increment 5: 36 months after EPA approval of the Florida State Plan or by December 19, 2000

The five increments of progress are:

Increment 1: Submittal of a final control plan for the designated facility to the appropriate air pollution control agency.

Increment 2: Awarding of contracts for emission control system or for process modification, or issuance of orders for the purchase of components parts to accomplish emission control or process modification.

Increment 3: Initiation of on-site construction or installation of emission control equipment or process change.

Increment 4: Completion of on-site construction or installation of emission control equipment or process change.

Increment 5: Final compliance.

15. DETERMINATION OF PROCESS VARIABLES

Any other operating parameters (including but not limited to control equipment operating parameters) established during compliance testing and/or inspection that will confirm the proper operation of each emission unit shall be included in the operating permit [Rule 62-297.310 (5), F.A.C. and 62-4.070(3), F.A.C.]

A copy of this permit modification shall be attached to Permit PSD-FL-112 and shall become a part of this permit.

Write "Return Receipt Requested" on the mailpiece below the article number.
 The Return Receipt will show to whom the article was delivered and the date delivered.

2. Restricted Delivery
 Consult postmaster for fee.

3. Article Addressed to:
 Thomas D. Kirk, P.M.
 Wheelabrator N. Blvd
 2600 NW 48th St.
 Pompano Bch, FL
 33073

4a. Article Number
 2 333 618 150

4b. Service Type
 Registered Certified
 Express Mail Insured
 Return Receipt for Merchandise COD

7. Date of Delivery
 5/24

5. Received By: (Print Name)
 M CAMERON

6. Signature: (Addressee or Agent)
 XM Cameron

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994 102595-97-B-0179 Domestic Return Receipt

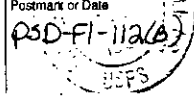
Z 333 618 150

US Postal Service
Receipt for Certified Mail
 No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to	Thomas Kirk
Street & Number	Wheelabrator North
Post Office, State, & ZIP Code	Pompano Bch, FL
Postage	\$ 1.65
Certified Fee	1.40
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom Date, & Addressee's Address	1.25
TOTAL Postage & Fees	\$ 4.30
Postmark or Date	PSD-FI-11267 5-21-99

PS Form 3800 April 1995



Thank you for using the

Memorandum

Florida Department of Environmental Protection

TO: Clair Fancy

THRU: Al Linero *JL AL*

FROM: Teresa Heron *T.H.*

DATE: May 12, 1999

SUBJECT: Wheelabrator North Broward Resource Recovery Facility
Air Pollution Control Equipment Retrofit

Attached is a draft modification to the PSD permit for this facility. This permit modification addresses the installation of the new SNCR air pollution control system for NOx to comply with the Emission Guidelines for existing municipal solid waste combustors, 40 CFR 60, Subpart Cb and the clarification of authorized fuels. In addition to the above, this permit modification also address a new permit condition for the fabric filter inlet temperature in accordance with Cb Emission Guideline Requirements; the incorporation of Subpart Cb emission standards, the elimination of Furnace Temperature limits and minor corrections to PSD conditions to be consistent with the Conditions of Certification.

The pollution control systems for this facility consist of: the existing spray dryer absorbers and fabric filters to control acid gases, particulate matter, and heavy metals; the new selective non-catalytic reduction to control nitrogen oxides; and combustion controls for volatile organic compounds, carbon monoxide, and dioxins and furans. Mercury is controlled by source separation techniques.

The slate of authorized fuels is being expanded and defined from "refuse such as garbage and trash" to: non-hazardous solid waste including municipal solid waste (MSW) as defined at 40 CFR 60.51b; records and documents; non-hazardous contraband, clean wood and land clearing debris; oil spill debris; waste tires; expired or off-spec packaged or unpackaged consumable goods (e.g. pharmaceuticals); consumer products; packaging materials; certain floor covering; used oil and filters; and certain other wastes similar to MSW. We included limits (acceptable to Wheelabrator) on these segregated wastes to insure the overall composition continues to comport to the typical characteristics of MSW.

We recommend your approval and signature.

AAL/th

Attachments