

Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

May 31, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Vicente Castro  
Assistant Director  
Miami-Dade County Department of Solid Waste  
8675 NW 53<sup>rd</sup> Street, Suite 201  
Miami, Florida 33166

Re: DEP File No. PSD-FL-006D  
Modifications to Permit PSD-FL-006A

Dear Mr. Castro:

Enclosed is one copy of the draft modifications to the PSD permit for Dade County Resource Recovery Facility located at 6990 NW 97<sup>th</sup> Avenue, Miami, Miami-Dade County. The Technical Evaluation and Preliminary Determination, the Department's Intent to Issue PSD Permit Modification 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/jk

Enclosures

In the Matter of an  
Application for Permit by:

Mr. Vicente Castro, Assistant Director  
Miami-Dade County Department of Solid Waste  
8675 NW 53<sup>rd</sup> Street, Suite 201  
Miami, Florida 33166

PSD-FL-006D  
Dade County Resource Recovery Facility  
Miami-Dade 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 attached) for the proposed project, detailed in the application specified above and the enclosed Technical Evaluation and Preliminary Determination, for the reasons stated below.

The applicant, Miami-Dade County Department of Solid Waste, applied on April 25, 2000, to the Department for a PSD Permit Modification for its Dade County Resource Recovery Facility located at 6990 NW 97<sup>th</sup> Avenue, Miami, Miami-Dade County. The permit modification is to revise requirements of applicable federal standards, clarify production limitations, expand and clarify the authorized fuels, provide for installation of selective non-catalytic reduction systems to control NO<sub>x</sub> and CO emissions, and revise the description of the boilers to reflect rebuilding of the original Fives-Cails Babcock units to the specifications of Zurn.

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 make the changes noted above.

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 32399-2400 (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(9) & (11), F.A.C.

The Department will issue the final permit with the attached conditions 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 permit issuance action for a period of thirty (30) days from the date of publication of Public Notice of Intent to Issue Air Permit. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes 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. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall 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 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

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. 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.

Mediation is not available in this proceeding.


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

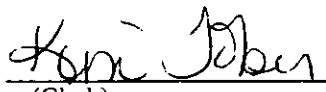
#### CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Intent to Issue PSD Permit Modification (including the Public Notice of Intent to Issue PSD Permit Modification, Technical Evaluation and Preliminary Determination, and the Draft permit) was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 6-6-00 to the person(s) listed:

Vicente Castro, Miami-Dade SWM\*  
Anetha Lue, P.E., Montenay  
David Buff, P.E., Golder  
Isidore Goldman, P.E, SED  
Patrick Wong, DERM  
Buck Oven, P.E, DEP/PPSC  
Mr. Gregg Worley, EPA  
Mr. John Bunyak, NPS

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.

 6-6-00  
(Clerk) (Date)

2 341 355 307

US Postal Service

# Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to		Vicente Castro	
Street & Number		Miami - Dade	
Post Office, State, & ZIP Code		Solid Waste	
Postage	\$	F1	
Certified Fee			
Special Delivery Fee			
Restricted Delivery Fee			
Return Receipt Showing to Whom & Date Delivered			
Return Receipt Showing to Whom, Date, & Addressee's Address			
TOTAL Postage & Fees	\$		
Postmark or Date		6-6-00	
0250348-003 AC			
PSD-F1-0060			

PS Form 3800, April 1995

## SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Vicente Castro, A.D.  
Miami-Dade Co.  
Dept. of Solid Waste  
8675 NW 53rd St.  
Miami, FL 33166

## COMPLETE THIS SECTION ON DELIVERY

A. Received by (Please Print Clearly) B. Date of Delivery

C. Signature

X H. K. K. K. K. K.

☐ Agent

☐ Addressee

D. Is delivery address different from item 1?

☐ Yes

If YES, enter delivery address below:

☐ No

3. Service Type

☒ Certified Mail ☐ Express Mail

☐ Registered

☐ Return Receipt for Merchandise

☐ Insured Mail

☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

(from service label)

2 341 355 307

PS Form M-1789

**PUBLIC NOTICE OF INTENT TO ISSUE PSD PERMIT MODIFICATION**

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. PSD-FL-006D

Miami-Dade County Department of Solid Waste  
Dade County Resource Recovery Facility  
Miami-Dade County

The applicant, Miami-Dade County Department of Solid Waste, applied on April 25, 2000, to the Department for a PSD Permit Modification for its Dade County Resource Recovery Facility located at 6990 NW 97<sup>th</sup> Avenue, Miami, Miami-Dade County. The permit modification is to revise requirements of applicable federal standards, clarify production limitations, expand and clarify the authorized fuels, provide for installation of selective non-catalytic reduction systems to control NO<sub>x</sub> and CO emissions, and revise the description of the boilers to reflect rebuilding of the original Fives-Cails Babcock units to the specifications of Zurn. The applicant's mailing address is: 8675 NW 53<sup>rd</sup> Street, Miami, Florida 33166.

A Best Available Control Technology (BACT) determination was not required. An air quality impact analysis was not required.

The Department will issue the Final permit with the attached conditions 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 permit issuance action for a period of thirty (30) days from the date of publication of this Public Notice of Intent to Issue PSD Permit Modification. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes 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. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall 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 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the

**NOTICE TO BE PUBLISHED IN THE NEWSPAPER**

proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by rule 28-106.301

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. 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:

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

Dade County Department of  
Environmental Resources Mgmt.  
Suite 900, 33 Southwest 2nd Ave.  
Miami, Florida 33130-1540  
Telephone: 305/372-6925

Dept. of Environmental Protection  
Southeast District  
400 North Congress Avenue  
West Palm Beach, Florida 33401  
Telephone: 561/681-6600

The complete project file includes the application, technical evaluations, Draft permit, 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 Source Review Section, or the Department's reviewing engineer for this project, Teresa Heron, at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information. The Department's technical evaluations and Draft Permit can be viewed at [www.dep.state.fl.us/air/permitting.htm](http://www.dep.state.fl.us/air/permitting.htm) by clicking on Construction Permits.

**TECHNICAL EVALUATION  
AND  
PRELIMINARY DETERMINATION**

**MIAMI-DADE COUNTY RESOURCE RECOVERY FACILITY  
MIAMI-DADE COUNTY DEPARTMENT OF SOLID WASTE  
MIAMI-DADE COUNTY, FLORIDA**

Modifications to PSD Permit PSD-FL-006A

Project No.: PSD-FL-006D  
Facility ID No.: 0250348

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

May 31, 2000



## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

### 1.0 APPLICATION INFORMATION

#### 1.1 Applicant Name and Address

Miami-Dade County Department of Solid Waste  
8675 Northwest 53<sup>rd</sup> Street, Suite 201  
Miami, Florida 33602

Authorized Representative: Vicente Castro, Assistant Director

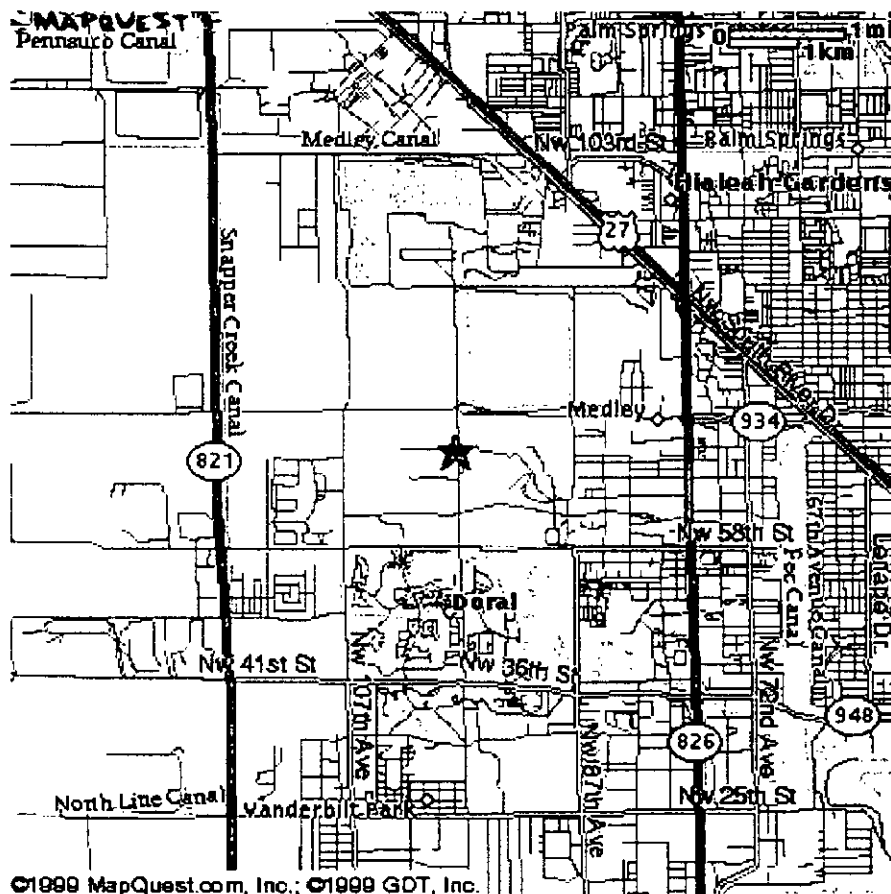
#### 1.2 Reviewing and Process Schedule

04-25-00: Date of Receipt of Application at FDEP Bureau of Air Regulation.  
04-25-00: Application deemed complete, FDEP Bureau of Air Regulation.  
05-31-00: Issued Intent.

### 2. FACILITY INFORMATION

#### 2.1 Facility Location

Refer to the figure below. The Miami-Dade County Resource Recovery Facility is located at 6990 NW 97<sup>th</sup> Avenue, Miami, Dade County. The UTM coordinates of this facility are Zone 17; 564.3 km E; and 2857.4 km N.



## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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### 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 Existing Facility Description

This facility processes trash and garbage. The garbage is converted to refuse-derived fuel (RDF) which is burned in four boilers that produce steam. The steam produced drive two nominal 38 megawatt steam turbine-electrical generators. Trash is further processed. One of the products from trash is biomass fuel that is transported and combusted elsewhere, such as the Okeelanta Cogeneration Facility in Palm Beach County.

### 2.4 Regulatory Classification

The facility is classified as a major or Title V source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) carbon monoxide (CO), or volatile organic compounds (VOC) exceed 100 tons per year (TPY).

Municipal incinerators are included in the list of the 28 Major Source Categories per Table 62-212.400-1, F.A.C. Because emissions are greater than 100 TPY 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 constructed subject to 40CFR, Subpart E, Standards of Performance for Incinerators. As an existing facility it is also subject to 40CFR60, Subpart Cb - Emissions Guidelines and Compliance Times for Municipal Waste Combustors That Are Constructed on or Before September 20, 1994.

This facility is also subject to requirements of Chapter 403, Part II, F.S. and Chapter 62-17, F.A.C., Electric Power Plant and Transmission Line Siting.

## 3. PERMITTING HISTORY

The Florida Department of Environmental Protection (FDEP) issued air construction permits (SC 13-2690 and 2691) for the four original pulp fuel boilers on August 4, 1977 (revised September 20, 1977). A Site Certification of the facility was issued on January 9, 1978 (PA77-08). EPA issued a PSD Permit (PSD-FL-006) on February 27, 1978.

Based on the September 20, 1977 revised construction permits, each "boiler pair" was actually permitted to burn 156,400 pounds per hour (39.1 tons per hour per boiler) of pulp fuel. For reference 50 percent of the weight is water. The original Site Certification reflects only 156,400 pounds per hour of RDF for the facility or 19.55 TPH of RDF per unit. The latter document does not reflect that process rate is by "boiler pair". Permit PSD-FL-006 included no production limits. Any limits given here do not supercede any restrictions found within the mentioned documents regarding the amount of solid waste that the facility was allowed to handle on weekly or annual basis.

None of the permits cited above specified the boiler manufacturer, which was Fives-Cails Babcock La Courneuve, a Babcock and Wilcox, affiliate. The facility began commercial

## **TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION**

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in 1982. There is an extensive record indicating that the original process of hydropulping, together with the method of burning and the air pollution control, was a failure.

In 1986, the FDER sued the original contractor and Dade County for operating out of compliance with the Site Certification. This resulted in a Consent Final Judgement requiring corrective actions to remedy the situation.

The County embarked on a Capital Improvement Plan between 1987 and 1990 that effectively completed a change to RDF processing, rebuilt the four boilers (now Zurn boilers), and made some improvements in the air pollution control equipment. It is clear that FDEP and EPA became aware of the project to rebuild the boilers and did not dispute claims by the County (in response to the Clean Air Act 114 procedure) that the project did not trigger PSD and a requirement for a Best Available Control Technology (BACT) determination. Notwithstanding this point, it did not relieve the County of the obligation to obtain an appropriate permit to modify the units.

In 1992, the County submitted an application to add two more boilers and to upgrade the air pollution control equipment on the four existing boilers. The County rescinded the request to build two more boilers but requested modification of the existing PSD permit to reflect the requirements of 40CFR60, Subpart Ca. At the time Subpart Ca was not in final form and had not been adopted by the Department. EPA subsequently rescinded Subpart Ca and advised that a subsequent standard (40CFR60, Subpart Cb) would take its place pursuant to the requirements of Title III of the 1990 Clean Air Act Amendments.

The County chose to proceed with the PSD permit change incorporating the Subpart Ca requirements. This action also allowed modification of the existing bulky waste (trash) processing system to provide biomass to other users. PSD-FL-006A was issued on December 16, 1994. This permit did not address the permitting requirements of the 1987-1990 boiler project. However, the action also introduced mass, steam, and heat input limits into the PSD permit that previously had no specific limitations for these parameters. For reference these values are 27 TPH of RDF, a maximum of 180,000 lb/hr of steam at 625 psig/730°F, and 302.4 mmBtu/hr.

Subsequent minor modifications to the PSD Permits were issued on: March 22, 1999 to revise test methods and monitoring requirements (PSD-FL-006B); and on December 8, 1999 to clarify some permit specific conditions, fuel use and NSPS requirements (PSD-FL-006C).

The Department issued a draft Title V Operation Permit on October 25, 1999 that lists the original Fives Cails Babcock boilers rather than Zurn boilers. The draft Title V includes a Compliance Plan provision that requires Preconstruction Review for the four Zurn RDF boilers. Furthermore, the Department issued a Warning Letter in January 2000 to the facility on the matter.

#### **4. PRESENT APPLICATION AND DEPARTMENT PROPOSED ACTIONS**

Miami-Dade County requests that the permit conditions associated with the rescinded 40CFR60, Subpart Ca be replaced by the requirements of 40CFR60, Subpart Cb - Emission Guideline and Compliance Times for Municipal Waste Combustors That Are Constructed on or Before September 20, 1994. The application includes the characteristics of the Zurn boilers.

Following is a Table submitted by (or through) Miami-Dade County listing the requested changes and the rationale. Some were already accomplished in PSD-FL-006B and PSD-FL-006C. The Department's responses are indicated in *Italics*.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

DESCRIPTION, PURPOSE, NOTES	DEPARTMENT ACTION
1. Establish that maximum capacity is demonstrated by steam flow instead of fuel feed rate. Consistency with Cb. (Steam flow is a more accurate compliance method when dealing with non-homogeneous fuel. The facility has no real method of accurately determining lb/hr fuel)	<i>The Department will include steam flow but will maintain reference points for mass throughput that were the basis for original construction of the facility.</i>
2. Correct 180,000 lb/hr steam flow limit contained in existing permit. Consistent with unit operation since 1987, steam limit is revised to monthly average (instead of 4-hr average). Simultaneously add 4-hr maximum steam flow limit based on dioxin/furan test as required by Subpart Cb. (Present error will result in de-rating the units once the performance test is completed)	<i>The Department does not consider the steam flow reference in the present permit to be in error. It is based on previous applications and was not challenged by Miami-Dade. The Department recognizes that the value is Zurn's Maximum Continuous Rating (MCR) per recent information from Miami-Dade. The Department will limit each boiler pair to an average of 180,000 lb/hr per unit over a 24-hour period. Based on the Department's assessment of data submitted by Miami-Dade there appears to be no need to derate the units based on this proposed limitation.</i>
3. Correct emission limit concentrations to Subpart Cb. Also, request removal of emission limits not based on Subpart Cb or other regulatory requirements. Consistency with Cb. (A few emission limits are slightly more restrictive than MACT which is probably unnecessary)	<i>The limits in the present permit are not in error. They are conditions in a federally-enforceable permit requested by Miami-Dade in 1993. The Department will to the extent possible express the limits in units consistent with Subpart Cb. More stringent limits in the present permit will not be relaxed simply to accommodate an additional federal requirement.</i>
4. Remove requirement to demonstrate compliance with lbs/hr, tons/yr and lbs/MMBTU limits on a continuous basis. Also remove requirement to use F-factor to determine RDF feedrate. Consistency with Cb (Flow can be determined annually but not continuously, and hourly heat input cannot be properly determined. F-factor calculations are more accurate for coal or other homogeneous fuels)	<i>The Department concurs with this request. Limits will be primarily expressed in the Subpart Cb units. The Department will keep the ton per year limitations. Shorter-term emissions and potential to emit can still be estimated from steam production and mass throughput data.</i>
5. Incorporate stack test methods previously approved and permitted. (If old methods are re-issued this will revoke changes recently approved)	<i>Department concurs and already took action via previous amendment.</i>
6. Incorporate previous permit amendment that authorizes use of certified CEM for annual compliance test data reporting. (If old methods are re-issued this will revoke changes recently approved)	<i>Department concurs and already took action via previous amendment.</i>
7. Incorporate previous permit amendment which authorizes 8-hour averaging period for carbon. (If old condition is re-issued this will revoke change recently approved)	<i>Department concurs and already took action via previous amendment.</i>
8. Remove mandatory monitoring of SO <sub>2</sub> , HCl and Hg	<i>Department concurs and already took action</i>

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

DESCRIPTION, PURPOSE, NOTES	DEPARTMENT ACTION
upstream of APCD except when percent removal is being used as compliance method. (If old condition is re-issued this will revoke change recently approved)	<i>via previous amendment.</i>
9. Add provision for reduced dioxin testing if dioxin/furan number are very low. Consistency with Cb	<i>Department concurs and already took action via draft Title V Operation Permit.</i>
10. Add clarification that maximum demonstrated steam load does not apply 2 weeks before and during stack test. Consistency with Cb	<i>Department concurs and already took action via draft Title V Operation Permit.</i>
11. Add descriptions of other waste types (including small amounts of biomass) which are permissible fuels. Monitoring and recordkeeping requirements for these fuels are also added. State has granted provision to other MWCs.	<i>Department concurs and already took action via draft Title V Operation Permit. Department will also reflect this change in present action.</i>
12. Add 5 % limit on fugitive emission. Consistency with Cb	<i>Department concurs and will make this change in the present action</i>
13. Incorporate previous permit amendment that authorizes the use of natural gas and installation of natural gas burners. Incorporate previous amendment	<i>Department concurs and already took action via previous amendment.</i>
14. Incorporate previous permit amendment that authorizes gas burners and other equipment to be installed for CO & NO <sub>x</sub> control. (Permit requires technical data for these controls to be submitted. If old condition is re-issued this will revoke change recently approved)	<i>The gas burners will be reflected in the revised permit. However additional provisions are not necessary. The County chose to comply with: the previous conditions and Subpart Cb by combustion controls. The present permit does not prevent the County from using this approach or selective non-catalytic reduction.</i>
15. Change allowance for start-up, shutdown and malfunction from 2 hours to 3 hours. <i>Also remove requirement which limits emissions resulting from these incidents to 2 hours in a 24-hour period.</i> Consistency with Cb. (State is considering change for all MWCs. If decision is made before permit issuance it would expedite matter to incorporate this change in this process)	<i>This request will not be handled in this action. It may be incorporated in a future action once a decision is made for all municipal waste combustors in Florida.</i>
16. Amend stack test methods to add Method 29 to approved test methods for particulate emissions determination.	<i>Method 29 is not an approved particulate sampling method.</i>

### 5. CONCLUSION

The changes agreed to by the Department will not reduce the stringency of the present permit and will make it less cumbersome to demonstrate compliance with the permit. The changes do not trigger the preconstruction review requirements of Rule 62-212.400, Prevention of Significant Deterioration. Based on the foregoing technical evaluation of the application submitted by Miami-Dade County, the Department has made a preliminary determination that the facility will comply with all applicable state and federal air pollution regulations provided it adheres to the revised Specific Conditions listed in the attached draft permit modification.

**PERMITTEE:**  
Miami-Dade County Department of  
Solid Waste Management  
8675 NW 53rd Street, Suite 201  
Miami, Florida 33166

**Permit Number:** PSD-FL-006AD  
**Expiration Date:** December 19, 2000  
**County:** Miami-Dade  
**Latitude/Longitude:** 25°50'06"N  
80°21'30"W  
**Project:** Dade County Resource Recovery  
Facility Units 1 through 4

This permit is issued under the provisions of Chapter 403, Florida Statute (F.S.), and chapters 62-204, 62-210, 212, 213, 272, 275, 296, 297 Florida Administrative Code (F.A.C.); and, Chapter 62-4, F.A.C. The above name permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department of Environmental Protection (Department) and specifically described as follows:

For the construction (modification) of the existing Dade County Solid Waste Energy Resource Recovery Facility consisting of four (4) existing municipal waste combustor units manufactured by Zurn Industries, Inc. The facility is located at 6990 NW 97th Avenue in Miami, Florida.

Each combustor unit shall be equipped with auxiliary burners to be fired by ~~only~~ propane or natural gas at a maximum heat input of 80 MMBtu/hr. Emissions from each unit shall be controlled by a spray dryer scrubber followed by a baghouse. Mercury emissions shall be controlled by injecting activated carbon or other appropriate reagent. Each unit shall have a ~~maximum~~ nominal permitted capacity of 27 tons per hour (TPH) of Refuse Derived Fuel (RDF) and a ~~maximum~~ nominal heat input of 302.4 MMBtu/hr, based on a refused derived fuel (RDF) heating value of 5600 Btu/lb. The Dade County Resource Recovery Facility is designed to process 3,000 tons per day (TPD), 18,000 tons per week (TPW) and 936,000 tons per year (TPY) of municipal solidwaste (trash and garbage).

Each unit shall be allowed to produce ~~at the manufacturer's maximum continuous rating (MCR)~~ of 180,000 lbs of steam per hour at 625 psig and 730°F. Two nominal 38-MW (gross) turbine-generators (using the steam from the four boilers) will supply the in-plant electrical load. The balance of the electricity generated will be sold ~~to Florida Power Corporation.~~

The existing bulky waste processing system will be modified into a biomass fuel preparation system. The modified system will have the ability to process up to 400,00 tons per year (TPY) of bulky waste into biomass fuel. Most of this biomass fuel would be transported off-site for use in biomass-fired cogeneration units located in South Florida.

The permittee shall submit at least four copies of the specifications prior to purchase and installation of any equipment authorized by this permit to the Bureau of Air Regulation 90 days prior to commencement of operation. Such information shall include the following: make and model numbers of all pollution control equipment, continuous emissions monitoring devices, and related equipment. The permittee shall also submit operation and maintenance manuals and calibration procedures for the equipment to the Bureau of Air Regulation at least 90 days prior to commencing operations.

The power plant site certification number for this facility is PA77-08.

The source shall be constructed/modified in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

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Attachments are as follows: Relevant Documents

The documents listed below are the basis of the permit. They are specifically related to this permitting action. These documents are on file with the Department.

Power Plant Site Certification package submitted on July 27, 1992, and related correspondence:

1. Model input information, September 2, 1992.
2. EPA's letter of September 16, 1992.
3. Department's letter of September 28, 1992.
4. Response to agency comments, February 17, 1993.
5. Application for Reasonable Available Control Technology (RACT), March 1993.
6. Second response to agency comments, July 8, 1993.
7. KBN's letter of November 5, 1993.
8. Modified Expansion Project, December 14, 1993.
9. Fine Jacobson Schwartz Nash Block's letter of December 27, 1993.
10. KBN's letter of January 19, 1994.
11. Fine Jacobson Schwartz Nash Block's letter of February 2, 1994.
12. KBN's letter of April, 1994.
13. KBN's letter of May 10, 1994.
14. Final Order (PA77-08C) signed March 2, 1994, and filed on March 3, 1994.
15. KBN's letter received April 7, 1994.
16. KBN's letter received May 12, 1994.
17. KBN's letter received May 16, 1994.
18. Mr. C.H. Fancy's letter with attachment dated July 20, 1994.
19. Mr. C.H. Fancy's letter with attachment dated October 25, 1994.
20. NPS's letter received November 10, 1994.
21. Public Notice received December 2, 1994.
22. Mr. Tom Tittle E-mail received December 2, 1994.
23. EPA's letter received December 12, 1994.
24. PSD-FL-006(A) Permit Modification issued on December 16, 1994
25. Application received (Bureau of Air Regulation) on March 15, 1999.
26. Department's incompleteness letter dated April 16, 1999
27. Montenay letters dated May 21, May 25, June 11, July 7, August 10, August 30, September 3, and September 21, 1999.
28. PSD-FL-006(B): Permit Modification dated March 22, 1999.
29. PSD-FL-006 (C): Permit Modification/letters dated December 1 and December 8, 1999.
30. Application received on April 25, 2000 to upgrade the control system of the four Zurn boilers.

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## SPECIFIC CONDITIONS:

### 1. EMISSION STANDARDS

- A. ~~Maximum permitted capacity of each unit is shall not exceed 27 tons/hr and 302.4 MMBtu/hr based on a heating value of 5,600 Btu/lb of refuse derived fuel (RDF)~~ The stack emissions from each unit shall not exceed any of the following limitations:

Pollutant	Emission Limits
-----------	-----------------

- |                     |  |
|---------------------|--|
| (PM)                | Particulate emissions from the baghouse shall not exceed 0.011 grains/dry standard ft <sup>3</sup> (gr/dscf), corrected to 7 percent O <sub>2</sub> (dry basis); <del>6.6 lbs/hr per unit</del> and 29.0 tons/year per unit.   |
| (PM <sub>10</sub> ) | Particulate emissions less than 10 micron diameter shall not exceed 0.011 gr/dscf, corrected to 7 percent O <sub>2</sub> (dry basis); <del>6.6 lbs/hr per unit</del> and 29.0 tons/year per unit.  |
| (SO <sub>2</sub> )  | Sulfur Dioxide emissions shall not exceed <del>3029</del> parts per million by volume (ppmvd), corrected to 7 percent O <sub>2</sub> (dry basis); or <del>70</del> 75 percent removal efficiency, whichever is least restrictive, based on a 24-hour daily period (i.e., block; midnight to midnight) geometric mean; <del>not to exceed 70 ppmvd corrected to 7 percent O<sub>2</sub>, 0.16 lb/MMBtu per unit, 48.9 lbs/hr per unit, 24-hour block average; and 214.2 tons/year per unit.</del>                               |
| (NO <sub>x</sub> )  | Nitrogen Oxide emissions shall not exceed <del>280</del> 250 ppmvd corrected to 7 percent O <sub>2</sub> (dry basis); <del>0.5 lb/MMBtu, 140.3 lbs/hr per unit, 24-hour daily arithmetic average; and 614.9 tons/year per unit.</del> <u>As specified in 40 CFR 60.33b(d)(1) a facility-wide average emission limit of 230 ppmvd, corrected to 7 percent O<sub>2</sub> (dry basis), 24-hour average, shall be applied in lieu of the per unit limit provided that the conditions of 40 CFR 60.33b(d)(1) are met.</u>           |
| (CO)                | Carbon Monoxide emissions shall not exceed 200 ppmvd at 7 percent O <sub>2</sub> (dry basis); <del>0.20 lb/MMBtu, 61.1 lbs/hr per unit, 24-hour daily arithmetic average; and 267.7 tons/year per unit.</del>  |
| (VOC)               | Volatile Organic Compound (Hydrocarbons) emissions shall not exceed 25 ppmvd, corrected to 7 percent O <sub>2</sub> (dry basis); <del>0.0145 lb/MMBtu, 4.37 lbs/hr per unit and 19.1 tons/yr per unit.</del> <del>Due to DCRRF's location in a non-attainment area for ozone</del> The permittee must furnish to the Department evidence (i.e. test results) that this facility emits less than 100 tons per year of hydrocarbons, or must obtain legally enforceable limits for the hydrocarbon emissions from this facility. |
| (HCl)               | Hydrogen Chloride emissions shall not exceed 25 ppmvd, corrected to 7 percent O <sub>2</sub> (dry basis); or, <del>90</del> 95 percent removal, whichever is least restrictive, <del>not to exceed 78 ppmvd corrected to 7 percent O<sub>2</sub>, 0.10 lb/MMBtu, 30.6 lbs/hr per unit, and 134.2 57.1 tons/year per unit.</del>  |
| (Hg)                | Mercury emissions shall not exceed 70 micrograms per dry standard cubic meter (ug/dscm), corrected to 7 percent O <sub>2</sub> (dry basis); or, 20 percent by weight of the mercury in the flue gas upstream of the mercury control device (80 percent reduction by weight), <u>whichever is least restrictive,</u> <del>not to exceed 6.1 x 10<sup>-6</sup> lb/MMBtu, or 0.018 lb/hr per unit, and 0.080 ton/year per unit.</del>   |



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- (Dioxins/Furans) Emissions of total (tetra-through octa-chlorinated) dibenzo-p dioxins and dibenzofurans shall not exceed ~~60~~ 30 nanograms per standard cubic meter ( $\text{ng}/\text{m}^3$ ) corrected to 7 percent  $\text{O}_2$  (dry basis),  ~~$5.2 \times 10^{-8}$  lb/MMBtu,  $1.6 \times 10^{-5}$  lb/hr per unit, and  $6.9 \times 10^{-4}$~~  and 0.000038 ton/year per unit.
- (F) Fluoride emissions shall not exceed  $840 \text{ ug}/\text{m}^3$  corrected to 7 percent  $\text{O}_2$  (dry basis),  ~~$7.3 \times 10^{-4}$  lb/MMBtu,  $0.22$  lb/hr per unit~~ and 0.97 ton/year per unit.
- (Cd) Cadmium emissions shall not exceed  $15 \text{ ug}/\text{m}^3$  corrected to 7 percent  $\text{O}_2$  (dry basis),  ~~$0.006$  lb/hr per unit~~ and 0.027 ton/year-per unit.
- ( $\text{H}_2\text{SO}_4$ ) Sulfuric Acid Mist emissions shall not exceed 2.1 ppmvd corrected to 7 percent  $\text{O}_2$  (dry basis),  ~~$0.007$  lb/MMBtu,  $2.20$  lbs/hr per unit~~ and 9.8 tons/year per unit.
- (Pb) Lead emissions shall not exceed  $380 \text{ ug}/\text{m}^3$  corrected to 7 percent  $\text{O}_2$  (dry basis),  ~~$3.3 \times 10^{-4}$  lb/MMBtu,  $0.10$  lb/hr per unit~~ and 0.44 ton/year per unit.
- (Be) Beryllium emissions shall not exceed  $0.46 \text{ ug}/\text{m}^3$  corrected to 7 percent  $\text{O}_2$  (dry basis),  ~~$4.0 \times 10^{-7}$  lb/MMBtu,  $0.00012$  lb/hr per unit~~ and 0.0005 ton/yr per unit.
- (As) Arsenic emissions shall not exceed  $9.3 \text{ ug}/\text{m}^3$  corrected to 7 percent  $\text{O}_2$  (dry basis);  ~~$8.1 \times 10^{-6}$  lb/MMBtu,  $0.0024$  lb/hr per unit~~ and 0.011 ton/yr per unit.
- (VE) There shall be no visible emissions during the lime silo loading operations (i.e., less than 5 percent opacity).
- (VE) Emissions from the biomass and ash silo baghouses, ash conditioning agent silo baghouses, and mercury reactant silo baghouses shall not exceed a particulate matter limit of 0.01 grains/dscf, or visible emissions of 5 percent opacity.
- (VE) Visible emissions from any other baghouse exhaust shall not exceed 10 percent opacity (six minute average).

Pursuant to Rule 62-4.080 F.A.C., for good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions for any regulated pollutants and visible emissions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on request of the permittee, the Department may grant additional time.

## 2. COMPLIANCE DETERMINATION

### A. STACK TESTING

#### 1) (a) Test Methods

Compliance with emission limiting standards referenced in Specific Condition No. 1 shall be demonstrated using EPA Methods, as specified in 40 CFR Part 60 (Standards of Performance for New Stationary Sources), Appendix A, or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants), Appendix B. No other test method shall be used unless approval from the Department has been received in writing. Any alternate sampling procedures shall be approved in accordance with Rule 62-297.620, F.A.C. A test protocol shall be submitted for approval to the Bureau of Air Regulation at least 90 days prior to testing.

EPA Method    For Determination Of

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1	Sample and Velocity Traverses for Stationary Sources.
2	Stack Gas Velocity and Volumetric Flow Rate
3A or 3	Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources
4	Moisture Content in Stack Gases
5	PM Emissions from Stationary Sources
201 or 201A	PM <sub>10</sub> Emissions; however, if compliance with PM emission limitations are met, these tests are not required.
6C and 19 (Note A)	Sulfur Dioxide Emissions from Stationary Sources
7E and 19 (Note A)	Nitrogen Dioxide Emissions from Stationary Sources
<u>8</u>	<u>Determination of Sulfuric Acid Mist Emissions from Stationary Sources. Initial Test.</u>
9	Visible Emission Determination of Opacity from Stationary Sources
10 (Note A)	Carbon Monoxide Emissions from Stationary Sources
<del>12 29</del>	<del>Inorganic Lead Emissions from Stationary Sources</del> <u>Determination of Metals Emissions from Stationary Sources</u>
13A or 13B	Total Fluoride Emissions from Stationary Sources. <u>Initial test and prior to permit renewal.</u>
<u>22</u>	<u>Visible Determination of Fugitive Emissions From Material Sources and Smoke Emissions from Flares</u>
23	Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans
25 or 25A	Total Gaseous Volatile Organic Compounds Concentration
26 or 26A	Hydrogen Chloride Emissions from Stationary Sources or <u>Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources</u>
40CFR 266 Appendix IX Section 3.4 <u>29</u>	Cadmium Emissions
<del>101A</del> <u>29</u>	<del>Gaseous Mercury Emissions from Sewage Sludge Incinerators</del> <u>Determination of Metals Emissions from Stationary Sources</u>
<del>104</del>	Beryllium Emissions from Stationary Sources or
<u>29</u>	<u>Determination of Metals Emissions from Stationary Sources. Initial test and prior to permit renewal.</u>
108 or <u>29</u>	Gaseous Arsenic Emissions or <u>Determination of Metals Emissions from Stationary Sources. Initial test.</u>

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Note (A) – For Relative Accuracy Test Audit (RATA) on 40 CFR60, Appendix F, EPA Reference Method 19 (Section 4.3 and Section 5.4), Continuous Emissions Monitoring Systems (CEMS) may use Methods 6C, 7E, and 10.

~~The weight of the refuse derived fuel (RDF) being fed to each combustor during the compliance test shall be determined by use of the EPA published AF= factor for MSW, which is 9,570 dscf/MMBtu (Fd), or 1,820 scf/MMBtu (Fc) (reference 40 CFR 60, Appendix A, Method 19, Table 19.1, 1993 edition).~~

- (b) Testing shall be conducted upstream (removal efficiency for SO<sub>2</sub> and HCl) and downstream (mass emissions) of the applicable control device for the following pollutants: SO<sub>2</sub>, Hg, and HCl if compliance demonstration is based on percent removal efficiency. Soot blowers shall be operated in a mode consistent with normal cleaning requirements of the system during the compliance testing.
- (c) If carbon is used to achieve the mercury limit or the dioxin/furan limit under Condition 1.A. of this permit, the rate of carbon injection, based on an 8-hour block average, used to achieve the emission limits during the most recent compliance test shall be determined according to the procedures in 40 CFR 60.58b(m). During operation the unit carbon injection feedrate must equal or exceed the level documented during the most recent compliance test as indicated in 40CFR60.58b(m)(2).
- (d) Test results will be the average of three valid runs of at least one-hour runs. The Department's Southeast District office and the Dade County's Department of Environmental Resource Management (DERM) office will be notified at least 30 days in writing in advance of the compliance test(s).
- (e) Testing of emissions shall be conducted with the source operating at permitted capacity in accordance with 40CFR60.53b(b) Standards for Municipal waste combustor operating practices and 40 CFR 60.38b and 60.58b, Compliance and performance testing. ~~Permitted capacity is defined as 90-100% of the maximum operating rate. If it is impracticable to test at permitted capacity, the sources may be tested at less than 90% of the maximum operating rate allowed by the permit, in this case subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen consecutive days for purposes of additional compliance testing to regain the permitted capacity in the permit, with prior notification to the Department's Southeast District office and the Dade County's DERM office~~

2) Testing Frequency

Compliance with emissions standards contained in Condition No. 1 shall be determined by conducting stack tests within 60 days after achieving the maximum production rate at which this facility will be operating, but not later than 180 days after initial startup, and annually thereafter except as specified in "a" and "b" of this section. These tests may be staggered throughout the year with the approval of the Department's Bureau of Air Regulation.

- a) For mercury emissions, testing shall be performed according to Rule 62-296.416, F.A.C.
- b) For dioxin/furans emissions, testing shall be performed according to 40CFR58b Compliance and Performance Testing.

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- c) Pursuant to Rule 62-2977.340(2), F.A.C., when the Department, after investigation, has good reason ( such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in this permit is being violated, it may require the owner or operator of the source to conduct compliance tests which identify the nature and quantity of pollutant emissions from the source and to provide a report on the results of said test to the Department's Southeast District office and the Dade County's DERM office.
- d) Compliance testing of ash silos (baghouse) and the lime silo loading operation (visible emissions test) shall be conducted within 90 days of completion of construction and initial operation; and, annually thereafter.
- e) Notification requirements of 40 CFR Parts 60.7 and 61.09 shall be complied with by the owner/operator of the facility.

3) Sampling Ports

The permittee shall provide sampling ports in the air pollution control equipment inlet (control efficiency measurement) outlet duct or stack and shall provide access to the sampling ports in accordance with Chapter 62-297, F.A.C. Detailed drawings of the stacks showing testing facilities and sampling port locations, as required by Rule 62-297.345, F.A.C, shall be submitted to the Department's Southeast District office and the Dade County's DERM office for approval at least 60 days prior to construction of the stack.

4) Temperature Standard and Monitoring

(a) Temperature Standard

~~Except during a malfunction, or as specified below, the maximum flue gas temperature at the final particulate matter control device inlet, during the combustion of solid waste, shall not exceed 30 degrees Fahrenheit above the maximum temperature measured at the particulate matter control device inlet during the most recent mercury compliance test under which the facility was found to be in compliance with the mercury emission limit specified in Specific Condition No. 1, based on a 4-hour block arithmetic average. If the maximum flue gas temperature standard is exceeded during a malfunction, then up to three hours of that malfunction may be excluded from the 4-hour block arithmetic average. The flue gas temperature standard set forth in 40CFR60.53b(c), incorporate by reference in Rule 62-204.800, F.A.C. shall apply. [Rule 62-296.416 F.A.C]~~

(b) Temperature Monitoring

~~The temperature monitoring requirements set forth in 40 CFR 60.58b(1), incorporated by reference in Rule 62-204.800, F.A.C shall apply. [Rule 62-296.416 F.A.C] Continuous monitoring equipment shall be installed on each unit to monitor and record the flue gas temperature at the inlet to the final particulate matter control device and record the output. The monitors shall be calibrated, operated and maintained in accordance with the manufacturers' instructions.~~

~~(1) The temperature shall be calculated in 4-hour block arithmetic averages.~~

~~(2) The monitoring equipment shall meet the requirements of 40 CFR 60.13, including certification of each device in accordance with 40 CFR 60.7(a)(5). The monitoring~~

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~~equipment is to be certified by the manufacturer to be accurate within 1 percent of the temperature being measured~~

B. MONITORING REQUIREMENTS

1) Continuous Emissions Monitoring

Continuous monitors with recorders shall be installed, calibrated, maintained and operated for each unit, subject to approval by the Department, for the following:

- Carbon Monoxide
- Nitrogen oxides
- Oxygen
- Opacity
- Sulfur Dioxide (for SO<sub>2</sub>, one monitor shall be located upstream of the scrubber and one shall be located downstream of the baghouse when using percent removal to determine compliance with the SO<sub>2</sub> limits), as specified in 40 CFR 60, Appendix B
- Total steam production (lbs/hr, pressure, and temperature)
- Power generation (MW)
- ~~Slake lime~~ Slurry utilization
- Activated carbon or mercury reactant injection or usage rate
- Temperature of combustion zone (as determined by surrogate temperature monitoring at the boiler roof)

The monitoring devices shall meet the applicable requirements of Chapter 62-297, F.A.C., 40 CFR 60 Appendix F, 40 CFR ~~60.58a~~ 60.58b, and 40 CFR 60.13, including certification of each device in accordance with 40 CFR 60, Appendix B, Performance Specifications, and 40 CFR 60.7(a)(5), Notification Requirements. Data on monitoring equipment specifications, manufacturer, type calibration and maintenance requirements, and the proposed location of each monitor shall be provided to the Department's Southeast District office and the Dade County's DERM office for review at least 90 days prior to installation.

C. OPERATING PROCEDURES

Operating procedures shall include good combustion practices and proper training and certification of all operators and supervisors. The good combustion practices shall meet the guidelines established in 40 CFR 60, Subpart ~~EaCb~~ and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained and certified in plant specific equipment (~~40 CFR 60.56a~~) (40 CFR 60.54b). A list of all such certified personnel shall be submitted to the Department's Southeast District office and the Dade County's DERM office.

Department staff shall be given notice of any training sessions related to operation and maintenance of the newly installed air pollution control devices.

The emission standards for this facility shall apply at all times, except during periods of start-up, shut-down, or malfunctions, provided that the duration of start-up, shut-down, or malfunction shall not exceed 2 hours in any 24 hour period. The start-up period commences when the affected facility begins the continuous burning of RDF but does not include any warm-up period when the affected facility is combusting only propane gas or natural gas. During all startups, shutdowns, and malfunctions the owner/operator shall use best operational practices to minimize air pollutant emissions.

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Within 90 days prior to start-up of the modified facility, the permittee shall submit to the Department's southeast District office and the Dade County's DERM office an operational procedures manual that identifies and prescribes best operational practices that will be used during startup, shutdown, and malfunctions of this facility.

### 3. OPERATIONAL REQUIREMENTS

#### A. OPERATING CAPACITY

- 1) ~~Each unit shall not be operated in excess of the permitted maximum capacity of 302.4 MMBtu/hr, based on maximum heating value of 5,600 Btu/lb of RDF and 27 tons RDF per hour per unit. Charging Rate: Each unit shall not be charged with more than 648 tons of RDF and permitted fuels per day, as determined by a rolling 12 month average.~~
  - 2) Bulky Waste: The DCRRF is allowed to process 400,000 TPY of bulky waste (trash) for biomass fuel preparation. This biomass fuel will be transported and combusted off-site.
  - 3) Processing Capacity: The DCRRF is allowed to process 3,000 tons per day, 18,000 tons per week, and 936,000 tons per year of RDF.
  - 4) Hours of operation: The DCRRF is allowed to operate continuously (8,760 hours per year).
  - 5) Steam Flow: Each boiler pair shall not exceed an average of 180,000 pounds of steam produced per hour per unit based on a 24-hour block averaged measurement.
  - 6) Load Level: Unit load means the steam load of the municipal waste combustor (MWC) measured as specified in 40 CFR 60.58b(i)(6). Compliance with load level requirements shall be determined by a steam meter using ASME Power Test Code for Steam Generating Units, Power Test Code 4.1, section 4 (see 40 CFR 60.58b(i)(6)(ii) & (iii)). Each MWC unit shall not operate at a load level greater than 110 percent of the unit's *maximum demonstrated unit load* based on 4-hour block averaged measurements of steam flow. The maximum demonstrated unit load is the highest arithmetic averaged measurement of steam flow recorded for 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).
- [Rules 62-4.030(3) and 62-204.800(8), F.A.C., 40 CFR 60.31b; 60.38b; 60.51b; 60.53b(b); and 60.58b(i) (6)&(8) and 60.58b(j)]

#### B. AUXILIARY BURNERS

Auxiliary burners for each unit shall be fired only by propane gas or natural gas. They shall not exceed a heat input of 80 MMBtu/hr. Natural gas or propane gas may be used as fuel during warm-up, start-up, shutdown, and malfunction periods, and at other times when necessary and consistent with good combustion practices.

#### C. RESTRICTION FOR TYPE OF WASTES COMBUSTED

- 1) The primary fuel for the facility is municipal solid waste (MSW) including the items and materials that fit within the definition of MSW contained in either 40 CFR 60.51b or Section 403.706(5), Florida Statutes (1995). No biological waste, bio-medical waste, sewage sludge, or hazardous wastes shall be combusted at this facility without obtaining proper modification to the site certification conditions. ~~The Permittee may combust up to 3 % (by weight) of used tires along with the RDF. If the applicant wishes to combust used tires in excess of 3% (by~~

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~~weight), a modification to this permit will be required prior to increasing the feed rate of the tires~~ (Note: Tires addressed below).

2) The facility shall not burn

- (a) those materials that are prohibited by state or federal law;
- (b) those materials that are prohibited by the permit;
- (c) lead acid batteries;
- (d) hazardous waste;
- (e) nuclear waste;
- (f) radioactive waste;
- (g) sewage sludge;
- (h) used oil, except for what is generated on-site;
- (i) explosives;
- (j) biological waste;
- (k) bio-medical waste;
- (l) Beryllium-containing waste as defined in 40CFR61.31(g).

3) 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 well mixed with MSW in the refuse pit or alternately charged with MSW in the hopper. The facility operators 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, (5 and 6). 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 homogeneous composition of waste material, as determined by visual observation.

4) Other Solid Waste – Subject to the condition and limitations contained in the 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 ticket, event tickets, coupons 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 fruits, vegetables, plants, and counterfeit consumer goods;
- (c) wood pallets, clean wood, and land clearing debris;
- (d) Packaging materials and containers;
- (e) Clothing, natural and synthetic fibers, fabric remnants, and similar debris, including but not limited to aprons, and gloves; and
- (f) Rugs, carpets, and floor coverings, but no asbestos-containing materials or polyethylene or polyurethane vinyl floor coverings.

5) The permittee may combust up to 3% (by weight) of used tires along with the RDF. If the applicant wishes to combust use tires in excess of 3% (by weight), a modification to this permit will be required prior to increasing the feed rate of the tires. The total quantity of waste tires received as segregated loads and burned at the facility shall not exceed 3% by

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weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30-day average in accordance with the specific condition # 4.B.9) below.

- 6) Other Solid Waste/Segregated Loads – 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 the limitation shall be determined by using a rolling 30-day average on a calendar monthly basis in accordance with specific condition # 4.B.9) 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, food stuffs, 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 limitation of 40 CFR 761.20(e).
  - (h) Waste materials generated by manufacturing, industrial or agricultural activities, provided that these items or material are substantially similar to items or materials that are found routinely in MSW, subject to prior approval of the Department.
  - (i) Biomass not sent off-site for use.
- 7) Other fuels or wastes shall not be burned in the emission units without prior specific written approval of the Secretary of the Department of Environmental Protection.

#### D. BAGHOUSE OPERATIONS

The baghouses installed downstream of the dry lime scrubbers shall be equipped with pressure drop monitoring instruments. The baghouses shall have a maximum air to cloth ratio of 4:1.



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**E. STACK HEIGHT**

The height at the top of the boiler exhaust stacks shall not be less than 250 feet above grade.

**F. FUGITIVE (UNCONFINED) EMISSIONS**

Fugitive (unconfined) emission at the facility shall be adequately controlled at all times (Rule 62-296.310, F.A.C.). All roads, except roads within the ash landfill, shall be adequately paved to control visible dust. Maximum 15MPH speed limit signs shall be posted to minimize dust generation. 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 handling and silo system to minimize fugitive dust. The ash/residue in the bottom ash building shall be kept sufficiently moist to minimize fugitive dust during storage and handling operations.

In accordance with 40 CFR60.55b fugitive emissions from the ash conveying points shall not be observed in excess of 5% of the time for a 3-hour observation period (i.e. 9 minutes per 3-hour period) as determined by EPA Method 22. This limit does not apply to emissions inside buildings or enclosures or the emission generated during maintenance and repair of the ash conveying systems.

In accordance with Rule 62-296.310(3)(b), F.A.C., reasonable precautions during the processing of biomass may include, but shall not be limited to the following:

- 1) Windows and doors of the enclosed space shall be kept closed except when needed to minimize fugitive dust.
- 2) Conveyor systems, screens, handling shredded wood fines and dust shall be covered enclosed.
- 3) Shredded wood conveyor systems shall have baghouse pick up points at the transfer points.
- 4) Wind breaks shall be installed around the shredded wood load-out area.
- 5) Floors in the enclosed area shall be cleaned periodically.
- 6) Loading areas for shredded wood shall be cleaned or wetted as needed to minimize fugitive dust.
- 7) Trucks transporting shredded wood shall be covered.

**G. ODOR CONTROL**

No air pollutants that cause or contribute to objectionable odors are allowed from this facility pursuant to Rule 62-296.320(2), F.A.C. The truck access doors to the facility shall remain closed except during normal working shifts when garbage is being received near the garbage storage pit area to allow vehicle passage. To minimize odors at the facility, a negative pressure shall be maintained on the garbage tipping floor and air from within the garbage building will be used as the combustion air.

**4. MISCELLANEOUS REQUIREMENTS**

**A. EMISSION CONTROL EQUIPMENT DESIGN SPECIFICATIONS**

- 1) The combustor's particulate control baghouse shall be designed, constructed and operated to achieve a maximum emission rate of 0.011 grains per dscf, corrected to 7 percent O<sub>2</sub>
- 2) The facility shall be equipped with dry scrubbers designed, constructed and operated to remove SO<sub>2</sub> at an efficiency of ~~70~~ 75 percent, by weight, or to achieve a maximum emission rate of ~~30~~ 29 ppmvd, corrected to 7 percent O<sub>2</sub>, 24-hour daily geometric mean, whichever is less stringent.

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- 3) The permittee shall submit to the Department's Bureau of Air Regulation, within thirty (90) days after it becomes available, copies of technical data pertaining to the selected emission control systems. The technical data should include, but not be limited to, guaranteed efficiencies and emission rates, and major design parameters.
- 4) Carbon injection will be installed and operated to achieve the mercury limit in Condition 1.
- 5) The permittee is authorized to install and operate permanently mounted gas burners, selective non catalytic reduction (SNCR) systems, and other controls to achieve the nitrogen oxide and carbon monoxide emission limits in Condition 1.

B. RECORDKEEPING

The DCRRF shall maintain a central file containing all measurements, records, and other data that are required to be collected pursuant to the various specific conditions of this permit. This file shall include but not be limited to:

- 1) the data collected from in-stack monitoring instruments;
- 2) the records on RDF input rate per unit;
- 3) the amount of propane gas and natural gas burned per unit;
- 4) the results of all source tests or performance tests;
- 5) the amount of activated carbon or other reactant chemicals used for mercury control;
- 6) calibration logs for all instruments;
- 7) maintenance/repair logs for any work performed on equipment or instrument which is subject to this permit; and, equipment or instrument which is subject to this permit; and,
- 8) fuel analysis data.
- 9) MSW percentage limitations of specific condition #3.C.:
  - (a) Each segregated load of non-MSW materials, that is subject to the percentage weight limitation of specific condition #3.C., 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 scales and recorded.
  - (b) 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 days in the current calendar month. At the end of each calendar month, the resultant monthly total weight of tires shall be divided by the total weight of all waste materials received in the same calendar month, and the resulting number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 3% limitation.
  - (c) 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 days in the current calendar month. At the end of each calendar month, the resultant monthly total weight of segregated non-MSW materials shall be divided by the total weight of all waste materials received in the same calendar month, and the resulting number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 5% limitation.

All measurements, records, and other data required to be maintained by DCRRF shall be retained for at least five (5) years following the date on which such measurements, records, or data are recorded. These data shall be made available to the Department upon request. The Department's Southeast District office

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and the Dade County's DERM office shall be notified in writing at least 15 days prior to the testing of any instrument required to be operated by these conditions of certification in order to allow witnessing by authorized personnel.

C. REPORTING

- 1) Two copies of the results of the emission tests for the pollutants listed in Condition 1. shall be submitted within forty-five days of the last sampling run to the Department's Southeast District office and the Dade County's DERM office. Reports shall be in a format consistent with and shall include the information in accordance with Rule 62-297.570, F.A.C.
- 2) Emissions monitoring data shall be reported to the Department's Southeast District office on a quarterly basis in accordance with Chapter 62-297, F.A.C., and 40 CFR Part 60.7, as appropriate.
- 3) Notice of anticipated and actual start-up dates of control devices under this permit shall be submitted to the Department's Southeast District office and the Dade County's DERM office.

D. REPORTING OF EXCESS EMISSIONS AND MALFUNCTIONS

- 1) A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, any other preventable upset condition, or preventable equipment breakdown shall not be considered malfunctions (Rule 62-210, F.A.C.).
- 2) Excess emissions resulting from startup, shutdown or malfunction of any source shall be permitted providing (a) best operation practices to minimize emissions are adhered to and (b) the duration of excess emissions shall be minimized but in no case exceed two hours in 24 hour period unless specifically authorized by the Department for longer duration (Rule 62-210.700(1), F.A.C.).
- 3) Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonable be prevented during startup, shutdown, or malfunction shall be prohibited (Rule 62-210.700(4), F.A.C.).
- 4) In case of excess emissions resulting from malfunctions, the DCRRF shall notify the Department's Southeast District office and the Dade County's DERM office in accordance with Section 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report (Rule 62-210.700(6), F.A.C.).
- 5) The owner or operator shall submit excess emission reports for any calendar quarter during which there are excess emissions from the facility. If there are no excess emissions during the calendar quarter, the owner or operator shall submit a report quarterly stating that no excess emissions occurred during the quarterly reporting period. The report shall include the following:
  - (a) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factors used, and the date and time of commencement and completion of each period of excess emissions [40 CFR 60.7(c)(1)].
  - (b) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the furnace boiler system. The nature and cause of any malfunction (if known) and the corrective action taken or preventive measures adopted

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[40 CFR 60.7(c)(2)].

- (c) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks, and the nature of the system repairs or adjustments [40 CFR 60.7(c)(2)].
- (d) When no excess emissions have occurred or the continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be stated in the report [40 CFR 60.7(c)(4)].
- (e) The owner or operator shall maintain a file of all measurements, including continuous monitoring systems performance evaluations; monitoring systems or monitoring device calibration; checks; adjustments and maintenance performed on these systems or devices; and all other information required by this permit recorded in a permanent form suitable for inspection [40 CFR 60.7(d)].

#### E. CIRCUMVENTION

The owner or operator of this facility shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard (40 CFR 60.12).

#### 5. RULE REQUIREMENTS

This facility shall comply with all applicable provisions of Chapter 403, F.S.; Chapters 62-4, 62-17 and Chapters 62-2094 through 297, F.A.C.; 40 CFR 60; 40 CFR 61; and, specifically, Rule 62-296.416, F.A.C. Waste-to-Energy Facilities and 40CFR60, Subpart A, 40CFR60, Subpart Cb and 40CFR60, Subpart E.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

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Howard L. Rhodes, Director  
Division of Air Resources Management

## Memorandum

## Florida Department of Environmental Protection

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TO: Clair Fancy

FROM: Al Linero *JK for AAL*

DATE: May <sup>30</sup>~~31~~, 2000

SUBJECT: Dade County Resource Recovery Facility  
Modifications to Permit PSD-FL-006A  
DEP File No.: PSD-FL-006D

Attached is a draft modification to the PSD permit for this facility. The main purpose of this modification is to remove the Subpart Ca-based requirements that were included in the permit and replace them, where appropriate, with Subpart Cb. Subpart Ca was rescinded by EPA and replaced by Subpart Cb.

The original PSD permit of 1978 and its modification in 1994 do not specify the boilers as to manufacturer. The revised permit will account for the (unpermitted) rebuilding of the original Fives-Cails Babcock units to the specifications of Zurn, by revising the description on the front page.

We are also clarifying the production limitations. The most recent permit had clear specific conditions limiting heat input and mass throughput. However it also had a maximum steam limit (written in language much like a condition) in the description of the permit. This language was rolled over into the draft Title V permit and Montenay was directed to get it changed in the construction permit if they disagree with it.

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, and combustion controls for volatile organic compounds, carbon monoxide, and dioxins and furans. Mercury is controlled by a carbon absorption system. New selective non-catalytic reduction systems are allowed to be installed, if necessary to control NO<sub>x</sub> and CO.

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, biomass and on-spec used oil generated on site.

I recommend your approval and signature. *THIS IS AN DAY 42 ON 6/5.*

AAL/th