

# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

May 2, 1991

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Mark C. Bruner, Director of Planning  
and Environmental Programs  
Solid Waste Authority of Palm Beach County  
7501 North Jog Road  
West Palm Beach, Florida 33412

Dear Mr. Bruner:

Re: Permit Modification for North County Regional Resource  
Facility, PSD-FL-108-A

Attached is one copy of the revised Technical Evaluation and Preliminary Determination and proposed permit modification for North County Regional Resource Facility located in Palm Beach County, Florida.

Please publish the attached "Notice of Intent to Issue" in the legal ad section of a newspaper of general circulation in the area affected and submit the proof of publication to the Department within seven days of publication, along with any written comments you wish to have considered concerning the Department's proposed action, to Mr. Barry Andrews of the Bureau of Air Regulation.

Sincerely,

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

CHF/MB/plm

Attachments

c: I. Goldman, SE Dist.  
J. Stormer, PBCHD  
J. Harper, EPA, Atlanta

BEFORE THE STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of  
Application for Permit by:

Solid Waste Authority of  
Palm Beach County  
7501 North Jog Road  
West Palm Beach, Florida 33412

DER File No. PSD-FL-108-A

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INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its intent to issue an air construction modified permit (copy attached) for the proposed project as detailed in the application specified above. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Solid Waste Authority of Palm Beach County, applied on November 30, 1990, to the Department of Environmental Regulation for a modification of the construction permit for an increase in capacity for the North County Regional Resource Facility located in Palm Beach County, Florida.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that an air construction permit is required for the proposed work.

Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue Permit. The notice shall be published one time only within 30 days, in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "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. The applicant shall provide proof of publication to the Department, at the address specified within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department will issue the permit with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, 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 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department 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 facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, 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 decision of the Department with regard to the application(s) have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office in General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this

proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION



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

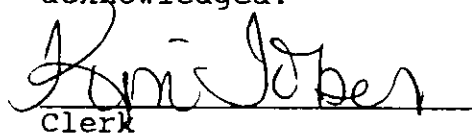
Copies furnished to:

c: I. Goldman, SE Dist.  
J. Stormer, PBCHD  
G. Worley, EPA, Atlanta

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on 5-2-91.

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant to  
§120.52(9), Florida Statute, with  
the designated Department Clerk,  
receipt of which is hereby  
acknowledged.



Clerk

5-2-91  
Date

State of Florida  
Department of Environmental Regulation  
Notice of Intent to Issue

The Department of Environmental Regulation hereby gives notice of its intent to issue a modified construction permit with an increased capacity for the North County Regional Resource Facility located near the intersection of the Beeline Highway and the Florida Turnpike in Palm Beach County, Florida. A determination of Best Available Control Technology (BACT) was required. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, 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 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department 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 facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, 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 an decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rul 28-5.207, F.A.C.

The application is available for public inspection during business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Regulation  
Bureau of Air Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Department of Environmental Regulation  
Southeast District  
1900 S. Congress Ave., Suite A  
West Palm Beach, Florida 33406

Palm Beach County Health Dept.  
Division of Environmental Science  
and Engineering  
901 E. Evernia Street  
West Palm Beach, Florida 33402

Any person may send written comments on the proposed action to Mr. Barry Andrews at the Department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the Department's final determination. Furthermore, a public hearing can be requested by any person. Such requests must be submitted within 30 days of this notice.

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Technical Evaluation  
and  
Preliminary Determination

Solid Waste Authority of Palm Beach County  
North County Regional Resource Recovery Facility  
Palm Beach County, Florida

Modification  
Permit No. PSD-FL-108-A

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

May 2, 1991

## I. Application

### A. Applicant

Solid Waste Authority of Palm Beach County  
North County Regional Resource Recovery Facility  
7501 North Jog Road  
West Palm Beach, Florida 33412

### B. Project and Location

This project is a resource recovery facility consisting of three identical units where approximately 3000 TPD of municipal solid waste is received and processed approximately 2000 tons per day of refuse derived fuel for energy recovery (30.65 MW per boiler). This facility is located near the intersection of the Beeline Highway and the Florida Turnpike in Palm Beach County, Florida.

## II. Project Description

The Department received a permit modification request dated November 29, 1989, for an increase in plant capacity along with a revision of the emission limits for NO<sub>x</sub>, CO, lead, mercury and sulfuric acid mist for the Solid Waste Authority of Palm Beach County, North Regional Resource Recovery Facility.

In July of 1986, the Florida Power Plant Siting Board issued a certification (No. PA 84-20) and EPA issued a permit in December 1986 (No. PSD-FL-108) for the above referenced facility. This permit authorized construction of a facility to operate a 3000 TPD MSW (when this waste is processed, it is reduced to approximately 2000 TPD of refuse derived fuel) capable of generating 75 MW. Currently the facility is designed to process 2000 TPD of MSW in two units with an annual throughput of 624,000 tons, with an additional 1000 TPD unit to be added within 5 years. The resource recovery facility consists of three major plants: the refuse derived fuel plant (RDF), the boiler plant and the electric generating plant. The facility is equipped with three RDF lines, any two of which can handle 2000 tons/day of MSW. Two boilers are provided, each with a capacity to burn 900 TPD of RDF, which is the equivalent of 1085 TPD of MSW.

### Modifications Requested

The Solid Waste Authority of Palm Beach County, North County Regional Resource Recovery Facility has requested the following modification:



Current Permit Language	Requested Modification
NO <sub>x</sub> : 0.32 lbs/MBtu	0.56 lbs/MBtu
CO: 400 PPMDV (3 hr. avg.) @ 12% CO <sub>2</sub>	200 PPMDV (4 hr. avg.) @ 12% CO <sub>2</sub> 400 PPMDV (1 hr. avg.) @ 12% CO <sub>2</sub>
Sulfuric Acid Mist: 0.32 x 10 <sup>-5</sup> lbs/MBtu	Delete
Lead: 0.0004 lbs/MBtu	0.0015 lbs/MBtu
Mercury: 3200 gms/day	0.00075 lbs/MBtu
Plant Capacity: The incinerator boilers shall not be loaded in excess of their rated capacity of 58,333 pounds of RDF per hour each or 360 MMBtu/hour each.	The maximum boiler heat input shall not exceed 412.5 MMBtu per hour. This corresponds to the name plate rating of 324,000 pounds per hour steam capacity.

### III. Rule Applicability

As stated in the previously issued PSD-FL-108 and PA 84-20 permits, the North County Regional Resource Recovery Facility is in an area designated as nonattainment for ozone and attainment for all other criteria pollutants and is subject to Chapters 17-2, 17-4 and 403 of Florida Administrative Code and 40 CFR 52, 60 and 61. In addition to these rules, this facility will be subject to the new CFR 110.29.

A BACT determination has been completed for NO<sub>x</sub>, CO, Lead, and Mercury. This was done taking into consideration the stack test results which were conducted during the week of October 23, 1989. In addition, the BACT analysis has taken into consideration the recent guidelines that have been promulgated for existing municipal waste combustors. Since the Department had limited experience/data available on RDF facilities at the time the original application was reviewed, these BACT determination values are more realistic.

### IV. Source Impact Analysis

#### A. Emission Limitations

A detailed evaluation of the new emission limits can be found in the Specific Conditions.

#### B. Air Quality Impacts

See the following memo from Mr. Tom Rogers.



State of Florida  
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

# Interoffice Memorandum

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TO: Buck Oven  
Site Certification Section

FROM: Tom Rogers *TR*  
Air Modeling and Assessment Section

DATE: May 15, 1990

SUBJECT: Palm Beach County RDF Facility

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I have reviewed the air quality analysis completed by the Palm Beach County Solid Waste Authority in support of modifications requested for their certification (PA 84-20). These modifications include changes in the allowable emission rates of CO, NOX, sulfuric acid mist, lead, and mercury, and changes to the source emissions characteristics including a higher heat input rate, increased stack diameter, decreased stack gas exit temperature, and decreased stack gas exit velocity.

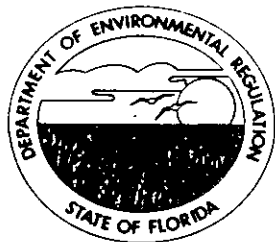
The air quality modeling performed by the county was completed in a manner acceptable to the Department. The results show that the modifications requested do not result in a violation of any ambient air quality standard or PSD increment. As such, these modifications are acceptable for the air quality areas I reviewed.

As a note, the increased allowable emission of mercury comes at a time when there is considerable concern about this pollutant.

V. Conclusion

Based on the information provided by Solid Waste Authority of Palm Beach County, the Department has reasonable assurance that the proposed modification of the North County Regional Resource Recovery Facility, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapter 17-2 of the Florida Administrative Code.

*Barry D. Anderson*  
# 36024  
5-2-91



# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

<b>PERMITTEE:</b>	<b>Permit Number:</b> PSD-FL-108-A
<b>Solid Waste Authority of Palm Beach County</b>	<b>Expiration Date:</b> None
<b>North Regional Resource Recovery Facility</b>	<b>County:</b> Palm Beach
<b>7501 North Jog Road</b>	<b>Latitude/Longitude:</b> 26°46'00"N
<b>West Palm Beach, FL 33412</b>	<b>80°08'45"W</b>
	<b>Project:</b> North County Regional Resource Recovery Facility

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. The above named 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 and made a part hereof and specifically described as follows:

For an increase in plant capacity (modification) for the North County Regional Resource Recovery Facility. The modification is as follows:

Construction and operation of three Babcock and Wilcox Stirling Power Boilers with a Detroit Stoker. The plant has a capacity to receive a maximum of 3000 TPD of MSW. Approximately 70 to 85% of MSW is converted to refuse derived fuel (RDF). The moisture content of RDF ranges from 15 to 40% and its heating value ranges from 4500 to 6200 Btu/lb. The maximum heat input to each unit shall not exceed 412.5 MMBtu/hr producing 300,000 lbs of steam per hour at 750 psig and 750°F.

Emissions from each of these units are controlled by a Joy Technologies spray dryer absorber, using approximately 6 to 7 tons of dry lime per day; followed by Niro Atomizer, Model F-160, Type GVWC-NPS-SV and a Joy Technologies Custom Joy/BSH Kerfeld European Style single chamber electrostatic precipitator, at a designed gas flow of 162,000 ACFM. Each unit is also equipped with the following continuous emission monitors:

<u>Gas Monitored</u>	<u>Brand Name of Analyzer</u>
SO <sub>2</sub>	Thermo Electron
NO <sub>x</sub>	Thermo Electron
O <sub>2</sub>	Kent
CO	Thermo Environmental Instruments
Opacity	CEMOP 281, Durag

**PERMITTEE:**  
**Solid Waste Authority of Palm**  
**Beach County**

**Permit Number: PSD-FL-108-A**  
**Expiration Date: None**

Each unit is equipped with four auxiliary natural gas fired burners which will be utilized for start-up and burn-down periods. Each burner is rated at a maximum heat input of 21.0 MBtu/hr. The annual capacity factor for use of natural gas, as determined by 40 CFR 60.43b(d), shall be less than 10%. Each unit is designed to generate a maximum of 31 MW.

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

**GENERAL CONDITIONS:**

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life,

PERMITTEE:  
Solid Waste Authority of Palm  
Beach County

Permit Number: PSD-FL-108-A  
Expiration Date: None

**GENERAL CONDITIONS:**

or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules..

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

**PERMITTEE:**  
**Solid Waste Authority of Palm**  
**Beach County**

**Permit Number: PSD-FL-108-A**  
**Expiration Date: None**

**GENERAL CONDITIONS:**

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes a Determination of Prevention of Significant Deterioration (PSD).

14. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance

**PERMITTEE:**  
Solid Waste Authority of Palm  
Beach County

**Permit Number:** PSD-FL-108-A  
**Expiration Date:** None

**GENERAL CONDITIONS:**

records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

**SPECIFIC CONDITIONS:**

1. Before the third unit commences construction, a new PSD construction permit must be submitted to the DER, since more than 18 months have elapsed from the date construction permit PSD-FL-108 was issued on December 16, 1986.

2. The Solid Waste Authority's North County Regional Resource Recovery Facility shall be allowed to operate continuously (i.e., 8,760 hrs/yr).

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

- a. Particulate matter: 0.015 grains per dscf corrected to 7% O<sub>2</sub>.



PERMITTEE:  
Solid Waste Authority of Palm  
Beach County

Permit Number: PSD-FL-108-A  
Expiration Date: None

**SPECIFIC CONDITIONS:**

- b. NO<sub>x</sub>: 0.46 lbs/MBtu.
  - c. Carbon Monoxide: 400 ppm<sub>dv</sub> corrected to 7% O<sub>2</sub> (1-hour average); 200 ppm<sub>dv</sub> corrected to 7% O<sub>2</sub> (24-hour average).
  - d. Lead:  $4.0 \times 10^{-4}$  lbs/MBtu.
  - e. Mercury:  $3.6 \times 10^{-4}$  lbs/MBtu.
  - f. Beryllium:  $7.3 \times 10^{-7}$  lbs/MBtu.
  - g. Fluoride: 0.0032 lbs/MBtu.
  - h. VOC: 0.023 lbs/MBtu.
  - i. SO<sub>2</sub>: 70% removal or 30 ppm<sub>dv</sub> at 7% O<sub>2</sub> (24-hour average).
  - j. Hydrogen Chloride: 90% removal or 25 ppm<sub>dv</sub> at 7% O<sub>2</sub> (24-hour average).
  - k. The opacity from each unit shall not exceed 10%, 6 minute average.
4. Each unit shall be tested within 90 days of issuance of this permit, and annually thereafter, to demonstrate compliance with emission standards mentioned in specific condition No. 3, using the following EPA test methods contained in 40 CFR 60, Appendix A, and in accordance with F.A.C. Section 17-2.700:
- a. Method 1 for selection of sample site and sample traverses.
  - b. Method 2 for determining stack gas flow rate when converting concentrations to or from mass emission limits.
  - c. Method 3 for gas analysis when needed for calculation of molecular weight or percent CO<sub>2</sub>.
  - d. Method 4 for determining moisture content when converting stack velocity to dry volumetric flow rate for use in converting concentrations in dry gases to or from mass emission limits.
  - e. Method 5 for concentration of particulate matter and associated moisture content. One sample shall constitute one test run.

**PERMITTEE:**  
**Solid Waste Authority of Palm**  
**Beach County**

**Permit Number: PSD-FL-108-A**  
**Expiration Date: None**

**SPECIFIC CONDITIONS:**

- f. Method 9 for visible determination of the opacity of emissions.
  - g. Method 6 for concentration of SO<sub>2</sub>, or other Methods approved by DER. Two samples, taken at approximately 30 minute intervals, shall constitute one test run.
  - h. Method 7 for concentration of nitrogen oxides, or other Methods approved by DER. Four samples, taken at approximately 15 minute intervals, shall constitute one test run.
  - i. Method 26 for determination of hydrochloric acid concentration or other Methods approved by DER and EPA.
  - j. Method 10 (continuous) for determination of CO concentrations. One sample constitutes one test run.
  - k. Method 12 for determination of lead concentration and associated moisture content, or other Methods approved by DER. One sample constitutes one test run.
  - l. Method 13A or 13B for determination of fluoride concentrations and associated moisture content, or other Methods approved by DER. One sample constitute one test run.
  - m. Method 19 for determination of "F" factors in determining compliance with heat input emission rates.
  - n. Method 101A for determination of mercury emission rate and associated moisture content, or other Methods approved by DER. One sample shall constitute one test run.
  - o. Method 104 for determination of beryllium emission rate and associated moisture content, or other Methods approved by DER. One sample shall constitute one test run.
  - p. Method 25 or 25A for determination of volatile organic compounds, or other Methods approved by DER. One sample shall constitute one test run.
5. The permittee shall submit a stack test report to the Department within 45 days of testing.

PERMITTEE:  
Solid Waste Authority of Palm  
Beach County

Permit Number: PSD-FL-108-A  
Expiration Date: None

**SPECIFIC CONDITIONS:**

6. The operating temperature of the boiler/furnace shall be maintained at a minimum of 1800°F at a height of 20 feet above the last over fire airport and a residence time of one second for the flue gases. In addition, the temperature at the exit of the dry scrubber shall not exceed 300°F. Appropriate instrumentation shall be installed, if not already installed, within 60 days of issuance of this permit, at a proper location to continuously monitor and record these operating temperatures.

7. Combustion efficiency shall be calculated by:  $\% CE = (1/(1+(CO/CO_2))) \times 100$ , and shall be at least 99.5% for an 8-hour average.

8. RDF may not be introduced into the Babcock and Wilcox combustor/boiler system until an operating temperature of 1800°F has been reached. The hydrated lime spray dryer and particulate control device must be in operation during start up and during shut down until all solid waste has been combusted as evidenced by visual inspection of the bottom ash.

9. During the process of all planned shut down or malfunctions of the combustor/boiler, auxiliary fuel burners shall be used to ensure that the temperature does not drop below 1800°F while any RDF material is still being incinerated. All control equipment shall be operating and functioning properly until all the RDF waste is incinerated.

10. Whenever the RDF combustor/boiler is operating, the tipping area shall be maintained at a negative air pressure and the air shall be used as primary combustion air. Open storage of solid waste outside of a building is prohibited.

11. The Solid Waste Authority's North County Regional Resource Recovery Facility shall utilize municipal solid waste as stated in the permit application. No sludge from sewage treatment plants shall be used as fuel. Use of alternate fuels would necessitate application for a modification to this permit.

12. During the compliance stack tests, RDF shall be analyzed by at least two separate labs, approved by the Department, using split samples for the Btu and moisture contents.

**PERMITTEE:**  
**Solid Waste Authority of Palm**  
**Beach County**

**Permit Number: PSD-FL-108-A**  
**Expiration Date: None**

**SPECIFIC CONDITIONS:**

13. The pressure, temperature and lbs/hr of steam produced should be continuously monitored and recorded on a chart. This chart should be properly calibrated and maintained at all times. The steam flow chart should have a span to read 0 to 350,000 lbs of steam per hour.

14. Continuous Monitoring Program: The owner or operator of this source shall install (if not already installed), maintain, operate, and submit reports of excessive emissions for the SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub>, CO, furnace temperature, flue gas temperature at scrubber exit, oxygen, and opacity. The facility shall be operated by personnel properly trained for the equipment herein. The Department shall be notified in advance, and in writing, on how the facility will be staffed and trained along with a training schedule. The Department, or its representative, reserves the right to be present during staff training, particularly with respect to air pollution control equipment and monitoring systems. The permittee must submit to the Department a detailed plan for maintaining/calibrating all continuous monitors within 90 days of issuance of this permit.

15. The Department's Tallahassee office and the West Palm Beach District office, along with the PBCHD, shall be notified at least 30 days prior to testing. After the 1991 stack tests are completed, the permittee shall give at least 15 days written notice prior to future annual stack testing to the West Palm Beach District and PBCHD offices.

16. There shall be no objectionable odors from this facility during its operation or shutdown period.

17. The permittee shall maintain a daily log of the municipal solid waste received. Such a log must record, at a minimum, the amount of waste, the time, and the type of waste received. The permittee shall also retain records of all information resulting from monitoring activities and indicating operating parameters as specified in this permit for a minimum of two years from the date of recording.

18. All reasonable precautions shall be taken during any construction and operation of this facility to prevent and control the generation of unconfined emissions of particulate matter in accordance with the provisions of F.A.C. Rule 17-2.610(3). These provisions are applicable to any source; including, but not limited to, vehicular movement, transportation of materials, construction,

PERMITTEE:  
Solid Waste Authority of Palm  
Beach County

Permit Number: PSD-FL-108-A  
Expiration Date: None

**SPECIFIC CONDITIONS:**

alteration, demolition, or wrecking; or industrial related activities such as loading, unloading, storing, and handling.

Issued this \_\_\_\_\_ day  
of \_\_\_\_\_, 1991

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

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Carol M. Browner  
Secretary

Best Available Control Technology (BACT)  
North County Regional Resource Recovery Facility  
Solid Waste Authority of Palm Beach County  
Palm Beach County, Florida  
PSD-FL-108-A

The applicant has constructed a resource recovery facility (RRF) located near the intersection of the Beeline Highway and the Florida Turnpike in Palm Beach County, Florida. The RRF is capable of burning up to 2,490 tons per day (TPD) of refuse derived fuel (RDF).

When the application was submitted to construct the facility in 1985, the plans were to construct a 2000 TPD municipal solid waste (MSW) processing facility and add an additional 1000 TPD capacity within 5 years. It was proposed that the ultimate plant capacity of 3000 TPD MSW would be processed into 1800 TPD RDF (60% recovery). The facility was permitted at the ultimate capacity.

The final system design for the RRF has proved to be much more efficient in recovering the heat content of the MSW than the original estimates. The mass recovery rate of the MSW is designed to be 83% rather than the 60% originally expected. As this is the case, the applicant requests that the maximum heat input limitation for each boiler be increased to 412.5 MMBtu/hr. The requested limit would allow the boilers to operate at 15% above the 380.4 MMBtu/hr full load capacity.

In addition to requesting modifications to permitted heat input, the applicant has also requested that emission limitations for some air pollutants be modified. The request to increase the emission limitations of some air pollutants is based on test data which has become available to the Solid Waste Authority of Palm Beach County subsequent to the issuance of the original permits. Based on this data, the applicant has stated that some of the original emission estimates were underestimated, hence the North County Regional RRF is unable to meet the permitted levels for some air pollutants.

The applicant has requested that the emission limitations for the pollutants nitrogen oxides, carbon monoxide, sulfur dioxide, sulfuric acid mist, lead, and mercury be modified. In accordance with this request, BACT has been re-evaluated for nitrogen oxides, carbon monoxide, mercury, and lead. The emission limitation for sulfur dioxide has been reviewed from the standpoint of increasing flexibility, and an evaluation has been made to determine if an emission limitation is needed for sulfuric acid mist.

BACT Determination Requested by the Applicant:

Current Permit Language	Requested Modification
NOx: 0.32 lbs/MMBtu	0.56 lbs/MMBtu
CO: 400 PPMDV (3 hr. avg.) @ 12% CO <sub>2</sub>	200 PPMDV (4 hr. avg.) @ 12% CO <sub>2</sub> 400 PPMDV (1 hr. avg.) @ 12% CO <sub>2</sub>
Lead: 0.0004 lbs/MMBtu	0.0015 lbs/MMBtu
Mercury: 3200 grams/day	0.00075 lbs/MMBtu

Date of Receipt of a BACT Application:

November 30, 1990

BACT Determination Procedure:

In accordance with Florida Administrative Code Chapter 17-2, Air Pollution, this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

- (a) Any Environmental Protection Agency determination of Best Available Control Technology pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).
- (b) All scientific, engineering, and technical material and other information available to the Department.
- (c) The emission limiting standards or BACT determinations of any other state.
- (d) The social and economic impact of the application of such technology.

With regard to the considerations outlined above, the evaluation will also take into account the emission guidelines for existing municipal waste combustors that have recently been promulgated under Section 111(d) and 129 of the Clean Air Act Amendments of 1990.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine for the emission source in question the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically or economically infeasible for the source in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

#### Nitrogen Oxides

The applicant has stated that current NOx limit of 0.32 lb/MMBtu is too stringent. This statement is based on stack emissions testing at the facility in which NOx emissions ranged from 0.325 to 0.372 lb/MMBtu for Unit 1 and ranged from 0.339 to 0.371 lb/MMBtu for Unit 2. Based on these stack testing results, the applicant has requested that the NOx emission limitation be adjusted upward to 0.56 lb/MMBtu.

A review of the BACT/LAER Clearinghouse suggest that the NOx limit requested by the applicant is comparatively high. Although no RDF facilities have been required to use add on equipment for NOx control, such as thermal de-NOx, several RDF facilities have been permitted with lower than requested NOx limitations.

Two such facilities, each permitted in 1987 (Palm Beach RRF was permitted in 1986) had NOx emission limitations of 0.46 lb/MMBtu and 260 ppm<sub>dv</sub> at 12% CO<sub>2</sub> (equates to approximately 0.46 lb/MMBtu for the Palm Beach Facility). Given these limitations and the stack test results, an emission level of 0.46 lb/MMBtu is viewed to be reasonable for the Palm Beach RRF and is thereby judged to represent BACT.

#### Carbon Monoxide

The applicant has requested that the averaging time for the current carbon monoxide limitation of 400 ppm<sub>dv</sub> at 12% CO<sub>2</sub> be adjusted from 3 hours to 1 hour. In addition, the applicant has also requested that a carbon monoxide limitation of 200 ppm<sub>dv</sub> at 12% CO<sub>2</sub> be established with a 4 hour averaging time.



Carbon monoxide emissions are generally accepted as an indicator of combustion efficiency. Limiting the emissions of carbon monoxide provides assurance that good combustion is taking place and organic emissions are being controlled. As this is the case, it is a common practice to establish both a short term and long term emission level, in which the short term limit is set higher to allow for sporadic changes in combustion.

For the long term standard, EPA has recently established guidelines for RDF facilities which limit carbon monoxide emissions to 200 ppm<sub>dv</sub> at 7% O<sub>2</sub> on a 24 hour average basis. As this is the case, this standard along with the short term standard requested by the applicant (400 ppm<sub>dv</sub> at 12% CO<sub>2</sub> on a 1 hour average basis) is judged to represent BACT for the facility.

#### Heavy Metals (Lead, Mercury)

Heavy metals such as lead and mercury are controlled by using high efficiency particulate control devices and taking measures to ensure that metals condensation is maximized. The applicant has requested that the emission limitations for lead and mercury be increased from the present values of 0.004 lb/MMBtu and 3,200 grams per day (equivalent to 0.00036 lb/MMBtu), respectively.

A review of the stack testing at the Palm Beach RRF indicates that the maximum lead and mercury levels measured were  $7.12 \times 10^{-5}$  lb/MMBtu and  $6.56 \times 10^{-5}$  lb/MMBtu, respectively. These levels are well below what is currently permitted. Although the emissions of these heavy metals can fluctuate widely depending upon the waste stream, it is not expected that the current limitations will be exceeded based on the test results.

To further enhance the control of heavy metals, recent permits for RRF facilities have established maximum temperatures at the outlet of the scrubber to promote condensation. In each case the temperature at the exit of the scrubber has been limited to 300°F. This temperature limitation along with the current emission limitations for lead and mercury is judged to represent BACT for the Palm Beach RRF.

#### Other Requests

The applicant has requested that the SO<sub>2</sub> emission limitation be modified to include the option of complying with a mass emission rate. Currently, the standard requires a 65% removal which may not be possible when the sulfur content of the waste stream is low.

Given this situation, the Department believes that the EPA emission guideline of either 70% removal or 30 ppm<sub>dv</sub> at 7% O<sub>2</sub> on a 24 hour average basis be used. In addition, the EPA guideline of 90% removal or 25 ppm<sub>dv</sub> at 7% O<sub>2</sub> on a 24 hour average should be established for HCl. A review of the test results indicates that these levels should be achievable.

Recent RRF permits have not established an emission limitation for sulfuric acid mist. This decision is based on unreliable results that are obtained with the sulfuric acid mist testing method (Method 8) for the low concentrations that are common to these facilities. As this is the case, the request to delete the limitation for sulfuric acid mist is reasonable.

With regard to plant capacity, the Department believes that it is reasonable to modify heat rate limitations to coincide with the new design rate. The permit will be modified to establish the maximum boiler heat input at 412.5 MMBtu per hour. This corresponds to the nameplate rating of 324,300 pounds per hour steam capacity.

Other Revisions:

To bring the Palm Beach RRF in line with other recently permitted facilities and the EPA guidelines, the Department is recommending the following revisions:

Opacity - limit to 10% (6 minute avg.)

Continuous emissions monitoring for CO, CO<sub>2</sub>, and SO<sub>2</sub>.

Combustion efficiency requirement of 99.5% for an 8 hour average where  $\% CE = (1/(1 + CO/CO_2)) \times 100$ .

Emission concentrations be corrected to 7% O<sub>2</sub> instead of 12% CO<sub>2</sub>.

BACT  
NCRRRF  
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Details of the Analysis May be Obtained by Contacting:

Barry Andrews, P.E., BACT Coordinator  
Department of Environmental Regulation  
Bureau of Air Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Recommended by:

Approved by:

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

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Carol M. Browner, Secretary  
Dept. of Environmental Regulation

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Date 1991

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Date 1991