

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

March 24, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Donald L. Lockhart, Executive Director
Solid Waste Authority of Palm Beach County
7501 North Jog Road
West Palm Beach, Florida 33412-2414

Re: DEP File No. 0990234-002-AC, PSD-FL-108(D)
North County Resource Recovery Facility
Class I and III Landfill Gas Flare Upgrade

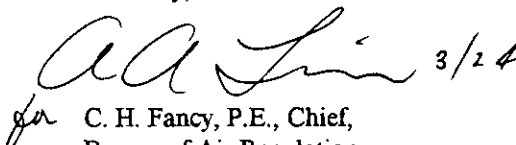
Dear Mr. Lockhart:

Enclosed is one copy of the Draft air construction permit modification for the North County Resource Recovery Facility Class I and III landfill gas flare upgrade located at 7501 North Jog Road, West Palm Beach, Palm Beach County. The Technical Evaluation and Preliminary Determination, the Department's Intent to Issue Air Construction Permit and the Public Notice of Intent to Issue Air Construction Permit are also included.

The Public Notice of Intent to Issue Air Construction Permit 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 modification.

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 Joseph Kahn, P.E. at 850/921-9519 or Mr. Linero at 850/488-0114.

Sincerely,


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

CHF/jk

Enclosures

In the Matter of an
Application for Permit by:

Donald L. Lockhart, Executive Director
Solid Waste Authority of Palm Beach County
7501 North Jog Road
West Palm Beach, Florida 33412-2414

DEP File No. 0990234-002-AC, PSD-FL-108(D)
North County Resource Recovery Facility
Class I and III Landfill Gas Flare Upgrade
Palm Beach County

INTENT TO ISSUE AIR CONSTRUCTION PERMIT

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit modification (copy of Draft permit modification 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, Solid Waste Authority of Palm Beach County, applied on September 21, 1998, to the Department for an air construction permit for its Class I and III Landfill Gas Flare Upgrade located at the North County Resource Recovery Facility, 7501 North Jog Road, West Palm Beach, Palm Beach County. This permitting action will supersede the previous permit modification, PSD-FL-108(B), dated February 20, 1996, clerked February 21, 1996. The permit modification is to allow for an upgrade of the blower motors for each landfill gas flare from a permitted flow rate of 900 scfm to a permitted flow rate of 1800 scfm. This permit modification will clarify previous permit conditions and remove a limitation on the sulfur content of the landfill gas, which the applicant can not control.

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 an air construction permit modification is required to perform the proposed work.

The Department intends to issue this air construction 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 Air Construction Permit. 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 modification 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 and requests for public meetings concerning the proposed permit issuance action for a period of 30 (thirty) days from the date of publication of Public Notice of Intent to Issue Air Permit. Written comments and requests for public meetings 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 modification and require, if applicable, another Public Notice.

The Department will issue the permit modification with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., 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 EFA 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.

 3/24
for C. H. Fancy, P.E., Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

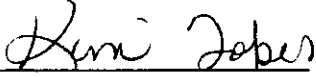
The undersigned duly designated deputy agency clerk hereby certifies that this Intent to Issue Air Construction Permit (including the Public Notice of Intent to Issue Air Construction Permit, Technical Evaluation and Preliminary Determination, and the Draft permit modification) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 3-24-99 to the person(s) listed:

Donald L. Lockhart *
Steve Palmer, DEP, Siting Coordination Office
James Stormer, PBCHD
John Bunyak, NPS

Alex H. Makled, P.E., CDM
Isidore Goldman, P.E., SED
Gregg Worley, EPA

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.

 3-24-99
(Clerk) (Date)

Z 333 618 089

US Postal Service
Receipt for Certified Mail

No Insurance Coverage Provided.
Do not use for International Mail (See reverse)

Sent to	
Donald Lockhart	
Street & Number	
2 WA of Palm Bch	
Post Office, State, & ZIP Code	
West Palm Bch FL	
Postage	\$
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	
0990234-002-AC 3-24-98 PSD-FI-108D	

PS Form 3800, April 1995

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Donald L. Lockhart, ED
Solid Waste Authority
of Palm Bch Co.
7501 N. Jog Road
West Palm Beach, FL
33412-2414

4a. Article Number
Z 333 618 089

4b. Service Type

- Registered
- Express Mail
- Return Receipt for Merchandise
- Certified
- Insured
- COD

7. Date of Delivery
3/30/99

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X

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

Thank you for using Return Receipt Service.

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. 0990234-002-AC, PSD FL-108(D)

Solid Waste Authority of Palm Beach County
North County Resource Recovery Facility
Class I and III Landfill Gas Flare Upgrade
Palm Beach County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit modification to Solid Waste Authority of Palm Beach County, to modify an existing construction permit for the North County Resource Recovery Facility located at 7501 North Jog Road, West Palm Beach, Palm Beach County. This permitting action will supersede the previous permit modification, PSD-FL-108(B), dated February 20, 1996, clerked February 21, 1996. The permit modification is to allow for an upgrade of the blower motors for each landfill gas flare from a permitted flow rate of 900 scfm to a permitted flow rate of 1800 scfm. This permit modification will clarify previous permit conditions and remove a limitation on the sulfur content of the landfill gas, which the applicant can not control. The applicant's mailing address is: 7501 North Jog Road, West Palm Beach, Florida 33412-2414.

The landfill flares are used to comply with federal regulations for control of landfill gas and the proposed project is necessary for compliance with the federal requirements. The proposed project does not result in net emissions increases that are significant for the Prevention of Significant Deterioration program. Emissions increases will occur primarily for nitrogen oxides, carbon monoxide and sulfur dioxide. An air quality impact analysis was not required.

The Department will issue the Final permit modification 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 and requests for public meetings concerning the proposed permit issuance action for a period of 30 (thirty) days from the date of publication of this Public Notice of Intent to Issue Air Construction Permit. Written comments and requests for public meetings 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 modification and require, if applicable, another Public Notice.

The Department will issue the permit modification with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., 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

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

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.

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

Division of Environmental
Science
and Engineering
Palm Beach County Health
Department
901 Evernia Street
West Palm Beach, Florida 33401
Telephone: 561/355-3070

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 modification, 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, Joseph Kahn, P.E., at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information.

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION

Solid Waste Authority of Palm Beach County
North County Resource Recovery Facility
Class I and III Landfill Gas Flare Upgrade
Palm Beach County

DEP File No. 0990234-002-AC
PSD-FL-108(D)

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

March 23, 1999

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

1. GENERAL INFORMATION

1.1 APPLICANT NAME AND ADDRESS

Solid Waste Authority of Palm Beach County
7501 North Jog Road
West Palm Beach, Florida 33412-2414

Authorized Representative: Donald L. Lockhart, Executive Director

1.2 REVIEWING AND PROCESS SCHEDULE

September 21, 1998	Received permit application and fee
October 20, 1998	Department's request for additional information
January 19, 1999	Received response to request for additional information
January 19, 1999	Application complete

2. FACILITY INFORMATION

2.1 FACILITY LOCATION

The facility, North County Resource Recovery Facility, is located at 7501 North Jog Road, West Palm Beach, Palm Beach County. The UTM coordinates are Zone 17; 585.8 km E; 2960.2 km N.

2.2 STANDARD INDUSTRIAL CLASSIFICATION CODES (SIC)

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

2.3 FACILITY CATEGORY

The facility consists of a resource recovery facility with a municipal waste combustor plant and active Class I and III landfills. Each landfill is equipped with an existing active gas collection and control system. Landfill gas is controlled at each landfill with an identical open, unassisted flare, LFG Specialties, Inc. model PCF82018. The tip diameters of the flares are not equal because the Class III flare has a reducer at the flare tip. The diameter of the Class I flare is 8.329 inches; the Class III is 6.00 inches.

This 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/PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), or volatile organic compounds (VOC) exceeds 100 tons per year (TPY).

This facility is within an industry included in the list of the 28 Major Facility 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, Prevention of Significant Deterioration (PSD).

3. PROJECT DESCRIPTION

This project addresses the following emissions unit(s):

EMISSIONS UNIT NO.	EMISSIONS UNIT DESCRIPTION
003	Landfill Gas Collection System, Class I
004	Landfill Gas Collection System, Class III

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

This permitting action is to allow for an upgrade of the blower motors for each landfill gas flare from a permitted flow rate of 900 scfm to a permitted flow rate of 1800 scfm. The revised application pages received January 19, 1999 state that the maximum flow rate of each of the existing blowers is 1050 scfm. However, the previous permit, PSD-FL-108(B), limits flow rate of each blower to 900 scfm in specific condition 10. This permitting action will also clarify that the permitted flow rate of 1800 scfm shall be the permitted maximum flow rate for each flare and shall describe the compliance method for demonstrating compliance with this maximum flow rate.

The applicant requested that the existing limit on sulfur content of the landfill gas be removed in this permitting action, and that the appropriate requirements of 40 CFR 60 Subpart WWW be included. This permitting action will address those requests, although the requirements of Subpart WWW will be incorporated by reference since the pending Title V permit will include those requirements in detail.

The flares are subject to the NSPS requirements of 40 CFR 60.18. Part of those requirements establishes a maximum exit velocity that is dependent on the heating value of the gas. The applicant used EPA's landfill emission model that assumes the landfill gas is composed of 50% methane, with a heating value of 980 Btu/scf. The remaining gas is considered to be carbon dioxide by the landfill emission model, so no credit is provided for the heating value of the NMOCs present in the gas. (The NMOCs represent only 0.77% by weight of the landfill gas.¹) We can assume then that the heating value of the landfill gas will be about 490 Btu/scf. This is close to the measured values of 490.9 for the Class I landfill and 445.5 Btu/scf for the Class III landfill. At the current flare tip diameters and assumed landfill gas heating value, the maximum exit velocities and projected exit velocities of the Class I and Class III flares are²:

Landfill	Gas Heating Value (Btu/scf)	Flare Tip Diameter (in.)	Vmax (ft/sec)	Vprojected (ft/sec)
Class I	491	8.329	100.7	79.3
Class III	490	6.00	100.7	152.8

Thus, the projected exit velocity for the Class III flare will exceed the maximum velocity before the maximum flow rate of 1800 scfm is achieved. This will occur at 1186 scfm assuming a Class III landfill gas heating value of 490 Btu/scf. At the current Class III landfill gas heating value of 445.5 Btu/scf³, the maximum velocity of 89.0 ft/sec will be exceeded at 1048 scfm. This problem can be avoided if the reducer in the Class III flare is changed or removed when flows exceed approximately 1000 scfm. The applicant is aware of this issue and will act accordingly to change the reducer in the Class III flare when necessary.⁴

The draft permit for this project will supersede the previous permit amendment, PSD-FL-108(B), dated February 20, 1996, clerked February 21, 1996.

4. PROJECT EMISSIONS

The emissions associated with this project are primarily NMOCs (VOCs), HAPs, and emissions associated with the combustion process. All emissions are estimated because of the difficulty in measuring emissions from an open flare. The applicant updated its application to use the most recent emission factors available, and estimated emissions from this project as those resulting from the difference between past actual gas flows and future potential gas flows for each landfill flare. The estimated NMOC and HAP emissions are after control. The primary combustion byproduct emissions are CO and NOx. The applicant also estimated emissions of SO₂ and HCl. Sulfur dioxide emissions result from the conversion of sulfur present in the landfill gas to sulfur dioxide during the combustion process. The Class III landfill has a far greater sulfur content in its landfill gas, partly because Class III wastes include sulfur containing materials such as

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

gypsum wallboard. The landfill operator can not control the sulfur content of the landfill gas and the sulfur present does not impair the operation of the flare so removal of the sulfur is not required. The applicant has demonstrated that emissions of SO₂ from this project are far below the PSD significance level at the projected sulfur concentrations for gas from each landfill, so this permit will not limit the sulfur content.

The following table summarizes the potential maximum emissions increases of air pollutants, estimated in the application using the difference between past actual and future potential landfill gas flow rates.

Emissions are shown in TPY:

Pollutant	Maximum Emissions Change, Class I	Maximum Emissions Change, Class III	Maximum Emissions Change, Total	PSD Significance Levels ¹	Subject to PSD Review?
NO _x	7.0	10.5	17.5	40	No
CO	38.1	57.2	95.3	100	No
PM/PM ₁₀ ²	3.4	5.0	8.4	25/15	No
SO ₂	0.7	21.0	21.7	40	No
VOC	0.6	0.8	1.4	40	No

1 Rule 212.400-2, F.A.C.

2 Particulate matter emissions were estimated by the Department.⁵ All PM is assumed to be PM₁₀.

The proposed project results in net emissions increases in PSD pollutants that are less than significant. Therefore the modification is not subject to PSD.

5. RULE APPLICABILITY

The proposed project is subject to preconstruction review requirements under the provisions of Chapter 403, Florida Statutes, and Chapters 62-4, 62-204, 62-210, 62-212, 62-214, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The landfill gas collection systems are subject to the collection and control requirements of 40 CFR 60 Subpart WWW and the flares are subject to the requirements of 40 CFR 60.18.

This facility is located in an area designated, in accordance with Rule 62-204.340, F.A.C., as attainment for the criteria pollutants PM₁₀, carbon monoxide, sulfur dioxide, and nitrogen dioxide; and also designated as a maintenance area for ozone.

The proposed project is not subject to review under Rule 62-212.400., F.A.C., Prevention of Significant Deterioration (PSD) as discussed above.

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

5.1 STATE REGULATIONS

Chapter 62-4	Permits
Rule 62-204.220	Ambient Air Quality Protection
Rule 62-204.240	Ambient Air Quality Standards
Rule 62-204.800	Federal Regulations Adopted by Reference
Rule 62-210.200	Definitions
Rule 62-210.300	Permits Required
Rule 62-210.350	Public Notice and Comments
Rule 62-210.370	Reports

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Rule 62-210.550	Stack Height Policy
Rule 62-210.650	Circumvention
Rule 62-210.900	Forms and Instructions
Rule 62-212.300	General Preconstruction Review Requirements
Rule 62-296.320	General Pollutant Emission Limiting Standards
Rule 62-297.310	General Test Requirements
Rule 62-297.401	Compliance Test Methods

5.2 FEDERAL RULES

40 CFR 60	NSPS Subpart WWW (landfills)
40 CFR 60	Applicable sections of Subpart A, General Requirements
40 CFR 60.18	General control device requirements (flares)

6. AIR POLLUTION CONTROL TECHNIQUES

The applicant controls emissions of NMOCs from the Class I and III landfills using the existing collection and control system. The existing landfill flares are the control devices. The flares result in an estimated reduction in NMOC emissions of 98% for each landfill.

Combustion of the landfill gas will result in combustion byproducts, primarily NO_x and CO. Thermal NO_x is formed in the combustion process as a result of the dissociation of molecular nitrogen present in air and its oxidation in the high temperature of the flame. Fuel NO_x is formed similarly, although the source of the nitrogen is the fuel itself. Thermal NO_x is expected to be the primary mechanism for NO_x formation for this source. Thermal NO_x is a consequence of the flare operation and cannot be effectively controlled in open, unassisted flares. CO is emitted from combustion processes due to incomplete fuel combustion. Combustion design is the primary means of control of CO, although control techniques for CO from open, unassisted landfill flares are limited. The existing flares have been designed for maximum control of NMOCs, which should result in reducing CO emissions.

Sulfur dioxide is emitted from the flares as a result of the combustion of the sulfur present in the landfill gas and conversion of that sulfur from its various forms to sulfur dioxide. The open flares have an excess of oxygen available for combustion so all sulfur is expected to be converted to sulfur dioxide. There are no effective available control options for sulfur dioxide from open landfill gas flares. Removal of sulfur from the landfill gas prior to combustion is possible but costly, and is neither required nor warranted at this facility. This option might be considered when the landfill gas must be "cleaned" prior to use because the sulfur oxides will damage combustion equipment such as a combustion turbine. This is not necessary for these flares.

A small amount of particulate matter (assumed to be all PM₁₀) is estimated to be emitted as a result of the combustion process. This is controlled similarly to CO, so the flare design should be sufficient to minimize these emissions.

6.1 STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

The existing flares are specifically subject to the requirements of 40 CFR 60.18. The Class I and III landfills are subject to the requirements of 40 CFR 60 Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills (NSPS). Subpart WWW was adopted by the Department by reference in Rule 62-204.800, F.A.C. The principal requirements of Subpart WWW are the installation and operation of a collection and control system for landfill gas. Pursuant to this subpart, the control device may be an open flare designed and operated in accordance with 40 CFR 60.18. The existing collection and control systems are consistent with the requirements of the NSPS rules. No National Emission Standards for Hazardous Air Pollutants exist for this project.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

6.2 COMPLIANCE PROCEDURES

The applicant will be required to record the gas flow rate to each flare on a monthly average basis and measure the sulfur content of the landfill gas at least annually using ASTM Method D1072-90, or later method, and report the sulfur content results annually. The test method for visible emissions is specified by the NSPS as Method 22.

6.6 EXCESS EMISSIONS

Allowable Excess Emissions: The provisions of Rule 62-210.700, F.A.C., regarding excess emissions are not applicable because there are no unit-specific emission limits imposed solely by state rule. State rules can not vary a federal requirement, so the provisions of Rule 62-210.700, F.A.C., do not apply to the NSPS provisions.

7. SOURCE IMPACT ANALYSIS

An impact analysis was not required for this project because it is not subject to the requirements of PSD.

8. CONCLUSION

Based on the foregoing technical evaluation of the application and additional information submitted by the applicant and other available information, the Department has made a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations. The Department will issue a draft permit to the applicant that allows the applicant to modify the flares to increase the landfill gas flow rate to 1800 scfm for each flare. This technical evaluation and preliminary determination was drafted by:

Joseph Kahn, P.E.
Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
850/921-9519

REFERENCES

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- ¹ Percentage of the annual mass emissions of total HAPs versus the annual emission of methane, as calculated by the applicant in its Attachment C of its response to the Department's request for additional information.
 - ² Calculations were made using the equations specified in 40 CFR 60.18(4) and (5) using the projected maximum flow rate of 1800 scfm and the diameters provided by the applicant as specified in its Utility Flare System Compliance Study performed by Waste Energy Technology, dated November 5, 1997.
 - ³ Provided by the applicant in its 1997 Annual Operational Testing Report prepared by Waste Energy Technology, January 8, 1998, revised May 5, 1998.
 - ⁴ Telephone discussion with Robert Worobel of SWA on March 5, 1999.
 - ⁵ The emission factor used was 1.0×10^{-3} lb/hr/dscfm, from Table 2.4-5 from Section 2.4 of AP-42. Scfm increases were adjusted for an estimated moisture content of 4.3% (Class I) and 3.9% (Class III) to obtain dscfm increases of 765.6 (Class I) and 1153.2 (Class III). Year-round operation of 8760 hours per year was assumed.

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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Donald L. Lockhart, Executive Director
Solid Waste Authority of Palm Beach County
7501 North Jog Road
West Palm Beach, Florida 33412-2414

Re: DEP File No. 0990234-002-AC, PSD-FL-108(D)
North County Resource Recovery Facility
Class I and III Landfill Gas Flare Upgrade

The applicant, Solid Waste Authority of Palm Beach County, applied on September 21, 1998, to the Department for an air construction permit for its Class I and III Landfill Gas Flare Upgrade located at the North County Resource Recovery Facility, 7501 North Jog Road, West Palm Beach, Palm Beach County. This permitting action will supersede the previous permit modification, PSD-FL-108(B), dated February 20, 1996, clerked February 21, 1996. The modification is to upgrade the blower motors for each landfill gas flare (emissions units 003 and 004) from a permitted flow rate of 900 scfm to a permitted flow rate of 1800 scfm. The Department has reviewed the applicant's request. The conditions of permit modification PSD-FL-108(B) are hereby replaced entirely with the following specific conditions.

New Specific Conditions:

1. Hours of Operation: These emissions units may operate continuously, i.e., 8,760 hours/year. [Rule 62-210.200, F.A.C., Definitions-potential to emit (PTE)]
2. Landfill Gas Collection and Control: The owner or operator shall comply with the applicable requirements of 40 CFR 60 Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills. [Rule 62-204.800(7)(b), F.A.C., and 40 CFR 60 Subpart WWW]
3. Landfill Gas Flow Rate: The owner or operator shall not allow more than 1800 scfm of landfill gas to be directed to each flare. The actual flow rate shall be determined for each flare on a monthly average basis by dividing the measured flow by the hours that each flare was operated each month. Compliance with this limitation shall be by measuring landfill gas flows to each flare and recording flows with a totalizing meter. Records of the totalizing meter values shall be recorded in an operators log monthly, or whenever the meter is reset for any purpose, whichever is more frequent. The owner or operator shall maintain a strip chart recorder to record the flow rate to each flare as a backup device in the event that the totalizer meter is not functioning; the strip chart recorder shall also be used in conjunction with an operators log to document the hours each month that each flare was operated. [Rule 62-4.070(3), F.A.C., and request of the applicant]
4. Pursuant to 40 CFR 60.18 General Control Device Requirements: The owner or operator shall comply with the following requirements for flares. [Note: The numbering of the rule has been preserved in the following condition for ease of reference.]
 - (c) (1) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
 - (2) Flares shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f).

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- (3) Flares shall be used only with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (f).
- (4) (iii) Nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), less than the velocity, V_{max} , as determined by the method specified in paragraph (f)(5), and less than 122 m/sec (400 ft/sec) are allowed.
- (d) Owners or operators of flares used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators of flares shall monitor these control devices.
- (e) Flares used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.
- (f)
 - (1) Reference Method 22 shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.
 - (2) The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.
 - (3) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$HT = K \sum_{i=1}^n C_i H_i$$

where:

H_i = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C;

K = Constant, 1.740×10^{-7} (1/ppm) (g mole/scm) (MJ/kcal) where the standard temperature for (g mole/scm) is 20°C;

C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 (Incorporated by reference as specified in 40 CFR 60.17); and

H_i = Net heat of combustion of sample component i , kcal/ g mole at 25°C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 (incorporated by reference as specified in 40 CFR 60.17) if published values are not available or cannot be calculated.

- (4) The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.
- (5) The maximum permitted velocity, V_{max} , for flares complying with paragraph (c)(4)(iii) shall be determined by the following equation.

$$\text{Log}_{10} (V_{max}) = (HT+28.8)/31.7$$

V_{max} = Maximum permitted velocity, M/sec

28.8 = Constant

31.7 = Constant

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HT = The net heating value as determined in paragraph (f)(3).

[Rule 62-204.800(7)(b), F.A.C., and 40 CFR 60.18]

5. Reporting Requirements: The owner or operator shall annually determine and report the actual exit velocity of each flare using the methods specified in 40 CFR 60.18. The owner or operator shall annually analyze and report the sulfur content of the landfill gas directed to each flare using ASTM Method D1072-90, or later method. The actual exit velocity and sulfur content shall be reported to the Department as an attachment to the facility's annual operating report. [Rule 62-4.070(3), F.A.C., and requirement of previous PSD FL-108(B), dated February 20, 1996, clerked February 21, 1996]

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. This permit modification is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order (permit modification) has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

DRAFT

Howard L. Rhodes, Director
Division of Air Resources
Management

CERTIFICATE OF SERVICE

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

Donald L. Lockhart *
Alex H. Makled, P.E., CDM
Steve Palmer, DEP, Siting Coordination Office
Isidore Goldman, P.E., SED
James Stormer, PBCHD
Gregg Worley, EPA
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.

(Clerk)

(Date)

Memorandum

Florida Department of Environmental Protection

TO: Clair Fancy

THRU: Al Linero *AL* 3/23

FROM: Joe Kahn *JK*

DATE: March 23, 1999

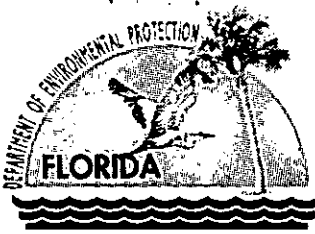
SUBJECT: Solid Waste Authority of Palm Beach County
North County RRF Site, Landfill Gas System Modifications
0990234-002-AC, PSD-FL-108(D)

Attached for approval and signature is a draft permit modification for the PSD permit for the landfill gas systems for the Class I and III landfills. This permitting action will supersede the previous permit modification, PSD-FL-108(B), dated February 20, 1996, clerked February 21, 1996. This permit modification allows for an increase in gas flow to each landfill gas flare (one for each landfill). This modification also clarifies previous conditions and removes a previous condition limiting the sulfur content of the landfill gas. The potential emissions for this modification are less than the PSD significance levels, so this action is not subject to the requirements of PSD, although this permitting action modifies a previous PSD permit.

I recommend your approval and signature.

Attachments

/jk



Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

P.E. Certification Statement

Solid Waste Authority of Palm Beach County
NCRRF, Class I and III Landfill Gas Flare Upgrade

DEP File No.: 0990234-002-AC
PSD-FL-108(D)

Project: Air Construction Permit for Gas Flow Rate Increases to Class I and III LF Flares

I HEREBY CERTIFY that the engineering features described in the above referenced application and related additional information submittals, if any, and subject to the proposed permit conditions, provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).

This review was conducted by me.

(Seal)

Joseph Kahn, P.E.

3/23/99

Date

Permitting Authority:

Florida Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation
New Source Review Section
Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Telephone: 850/488-0114
Fax: 850/922-6979

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