Memorandum

Florida Department of
Environmental Protection

TO: Trina L. Vielhauer

THRU: A. A. Linero, P.E.

FROM: Scott M. Sheplak, P.E.

DATE: November 18, 2005

SUBJECT: Solid Waste Authority of Palm Beach County
North County RRF Site Modification
Biosolids Pelletization Facility
0990234-006-AC and PSD-FL-108F

ARMS Day 90 = 11/28/05

Attached for approval and signature is a draft PSD permit modification for the PSD permit for the construction of a biosolids pelletization facility (BPF). With this latest request the applicant modified their original project submitted in July 2002; the applicant has withdrawn the lime recalcination part of the project and increased the biosolids pelletization rate from 400 wet TPD to 675 wet TPD.

This facility is a major PSD source. The proposed project is subject to PSD for emissions of NOx and PM/PM_{10} because the significant emission rates were exceeded. NOx emissions were 52.5 TPY and PM/PM_{10} emissions were 22.6/22.3 TPY. The significant emission rates are 40 TPY for NOx and 25/15 TPY for PM/PM_{10}. BACT standards are established for PM/PM_{10}, opacity and NOx. Emissions of SO_2, CO, VOC and Hg are limited for reasonable assurances.

The applicant proposes the use of dry low NOx burners with acid addition in the tray/condenser scrubber to control NOx emissions from each dryer's exhaust. The applicant proposes to use a tray/condenser scrubber and a venturi scrubber to control PM emissions from each dryer's exhaust. The BPF will also use a regenerative thermal oxidizer (RTO) on the dryer exhaust to control VOC emissions and odors. Fabric filters will be used on each material recycle bin exhaust and each pellet storage silo exhaust to control PM emissions.

An air quality analysis was performed by the applicant and verified by Debbie Nelson.

We recommend your approval and signature.

Attachments

AAL/SMS

Department of Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

November 18, 2005

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

John D. Booth, Executive Director
Solid Waste Authority of Palm Beach County
7501 North Jog Road
West Palm Beach, Florida 33412-2414

Re: DEP File No. 0990234-006-AC and PSD-FL-108F
North County Resource Recovery Site
Biosolids Pelletization Facility

Dear Mr. Booth:

Enclosed is one copy of the Draft air construction permit modification for the North County Resource Recovery Site to construct the above mentioned emissions units. This site is located at 7501 North Jog Road, West Palm Beach, Palm Beach County. The Technical Evaluation and Preliminary Determination, the Department's Intent to Issue PSD Air Construction Permit and the Public Notice of Intent to Issue PSD Air Construction Permit are also included.

The Public Notice of Intent to Issue PSD 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, Air Permitting South Section at the above letterhead address. If you have any other questions, please contact Mr. Scott M. Sheplak, P.E. at 850/921-9532 or Mr. Linero at 850/921-9523.

Sincerely,

Trina L. Vielhauer, Chief,
Bureau of Air Regulation

TLV/AAL/sms

Enclosures

In the Matter of an
Application for Permit by:

John D. Booth, Executive Director
Solid Waste Authority of Palm Beach County
7501 North Jog Road
West Palm Beach, Florida 33412-2414

DEP File No. 0990234-006-AC and PSD-FL-108F
Biosolids Pelletization Facility

INTENT TO ISSUE PSD AIR CONSTRUCTION PERMIT

The Department of Environmental Protection (Department) gives notice of its intent to issue a PSD air construction permit modification (copy of Draft PSD 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 May 4, 2005 (completed on August 30, 2005), to the Department for a PSD permit for the construction of a 675 wet tons of sludge per day (wtpd, at 20% solids) Biosolids Pelletization Facility (BPF) at the North County Resource Recovery Facility Site, Palm Beach County.

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

The Department intends to issue this air construction permit 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, 62-297, F.A.C and 40 CFR 52.21.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1., F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue PSD Permit. The notice shall be published one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax 850/ 922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the final permit with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments and requests for public meetings concerning the proposed permit issuance action for a period of 30 (thirty) days from the date of publication of the enclosed Public Notice. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If

comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

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

This PSD permitting action is being coordinated with a certification under the Power Plant Siting Act (Sections 403.501-519, F.S.). If a petition for an administrative hearing on the Department's Intent to Issue is filed by a substantially affected person, that hearing shall be consolidated with the certification hearing, as provided under Section 403.507(3).

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

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

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

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above. Mediation is not available in this proceeding.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a

variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

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

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

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

Executed in Tallahassee, Florida.

Trina L. Vielhauer
Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Intent to Issue PSD Air Construction Permit (including the Public Notice of Intent to Issue PSD Air Construction Permit, Technical Evaluation and Preliminary Determination, and the Draft permit modification) was sent by certified mail with an e-mailed version (*) and copies were mailed by e-mail before the close of business on 11/21/05 to the person(s) listed:

Mr. John D. Booth, SWA *
jbooth@swa.org

Mr. Ray Schauer, SWA
rschauer@swa.org

Mr. Kevin C. Leo, P.E., CDM
leokc@cdm.com

Mr. Steve Palmer, DEP, Siting Coordination Office
Steve.Palmer@dep.state.fl.us

Mr. James Stormer, PBCHD

Mr. John Bunyak, NPS

Mr. Alex H. Makled, P.E., CDM
makledah@cdm.com

Ms. Jill Grimaldi, CDM
GrimaldiJT@cdm.com

Mr. Darrel Graziani, SED
Darrel.Graziani@dep.state.fl.us

Mr. 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.

(Clerk) 11/21/05 (Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. 0990234-006-AC and PSD-FL-108F

Solid Waste Authority of Palm Beach County
North County Resource Recovery Facility
Biosolids Pelletization Facility
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 its existing PSD construction permit for the North County Resource Recovery Facility located at 7501 North Jog Road, West Palm Beach, Palm Beach County. A Best Available Control Technology (BACT) determination was required for nitrogen oxides (NOx) and particulate matter (PM) emissions pursuant to Rule 62-212.400, F.A.C., and 40 CFR 52.21. The applicant's mailing address is: 7501 North Jog Road, West Palm Beach, Florida 33412-2414

This permitting action is for the construction of a Biosolids Pelletization Facility (BPF) at the North County Resource Recovery Facility Site in Palm Beach County. The BPF will primarily combust landfill gas generated from the nearby landfill and use natural gas as a back up fuel in two 337.5 wet ton per day drum dryers to dry sewage sludge, and then screen the dried sludge into marketable fertilizer pellets.

The applicant proposes the use of dry low NOx burners and acid addition in the tray/condenser scrubber to control NOx emissions from each dryer's exhaust. The applicant proposes to use a tray/condenser scrubber and a venturi scrubber to control PM emissions from each dryer's exhaust. The BPF will also use a regenerative thermal oxidizer (RTO) on the dryer exhaust to control VOC emissions and odors. Fabric filters will be used on each material recycle bin exhaust and each pellet storage silo exhaust to control PM emissions.

According to the applicant, the combined maximum emissions from this project in tons per year are summarized below.

Pollutant	ximum Potential Emissions	PSD Significant Emission Rate
NOX	52.5	40
PM/PM_{10}	22.6/22.3	25/15
SO_2	39	40
CO	29.5	100
VOC	8.8	40
Hg	8.08 E-03	0.17

An air quality impact analysis was required for nitrogen oxides (NOx) and PM/PM_{10}. According to the applicant, maximum predicted air quality impacts due to emissions from the proposed project for nitrogen oxides (NOx) and PM/PM_{10} are less than the significant impact levels applicable to PSD Class II Areas (i.e., areas outside of the Everglades National Park). Therefore, an increment consumption analysis was not required. The project has no significant impact on the PSD Class I Everglades National Park area. Based on the required analyses, the Department has reasonable assurance that the proposed project will not cause or contribute to a violation of any state or federal ambient air quality standard.

The Department will issue the FINAL Permit, in accordance with the conditions of the DRAFT Permit, 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 PSD 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 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.

This PSD permitting action is being coordinated with a certification under the Power Plant Siting Act (Sections 403.501-519, F.S.). If a petition for an administrative hearing on the Department's Intent to Issue is filed by a substantially affected person, that hearing shall be consolidated with the certification hearing, as provided under Section 403.507(3).

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

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.

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
Fax: 561/355-2442

Dept. of Environmental Protection
Southeast District
400 North Congress Avenue
West Palm Beach, Florida 33401
Telephone: 561/681-6600
Fax: 561/681-6755

The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact Scott M. Sheplak, P.E. at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/921-9532, for additional information. The draft permit, technical evaluation and preliminary determination can be accessed at the following web site www.dep.state.fl.us/air/permitting/construct.htm.

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

Solid Waste Authority of Palm Beach County

Facility ID No.: 0990234

PROJECT

DEP File No.: 0950137-006-AC and
PSD-FL-108F

Biosolids Pelletization Facility

COUNTY

Palm Beach County

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
Air Permitting South Section
Mail Station #5505, 2600 Blair Stone Road
Tallahassee, Florida 32399-2400

November 18, 2005

1. GENERAL PROJECT INFORMATION

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

Authorized Representative: Mr. John D. Booth, Executive Director

Application Processing Schedule

May 4, 2005 Received application to construct: incomplete.

July 15, 2005 Incompleteness letter.

August 30, 2005 Received additional information: application complete.

{Note: The applicant requested a modification to their original project submitted in July 2002. The applicant has withdrawn the lime recalcination part of the project and increased the biosolids pelletization rate from 400 wet TPD to 675 wet TPD.}

Relevant Documents

- Permit PSD-FL-108E
- Power Plant Siting Act Certification PA84-20
- Current Title V Air Operation Permit 0990234-004-AV
- Department's Technical Evaluation & Preliminary Determination dated [Month day, 2005]

2. FACILITY DESCRIPTION AND LOCATION

The facility, North County Resource Recovery Facility (NCRRF), 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. {See **Figure No. 2-4** provided by the applicant showing the proposed site for this project}

This existing facility consists of a *very large* municipal waste combustor plant designed to process 2,000 tons per day (TPD) of municipal solid waste (MSW). This existing facility includes two boilers and two landfills, a Class I Landfill and a Class III Landfill, each with its own gas collection system and flare.

North County Resource Recovery Facility

http://www.swa.org/site/information_and_documents/ncrrf.htm

3. PROPOSED PROJECT

Proposed Activity

The applicant, Solid Waste Authority of Palm Beach County, proposes to construct a 675 wet tons of sludge per day (wtpd, at 20% solids) Biosolids Pelletization Facility (BPF). The BPF will have two

337.5 wtpd process trains and related appurtenances. The proposed BPF will be located adjacent to the existing landfill. Each dryer train at the BPF will combust landfill gas generated from the nearby landfill in a rotary drum dryer to dry sewage sludge, and then screen the dried sludge into marketable fertilizer pellets. Natural gas will be used as a backup fuel. Each dryer has a rated capacity of 34.2 MMBTU/hr based on landfill gas or 34.1 MMBTU/hr based on natural gas. An additional 2 MMBtu/hr is required for each regenerative thermal oxidizer (RTO) making the total design capacity of each train 42 MMBtu (84 MMBtu total for the BPF).

The BPF will help eliminate phosphorus loading of the Lake Okeechobee drainage basin and other environmentally sensitive basins in the area due to land application of wastewater sludge. Major metropolitan areas in the U.S. are pelletizing sludge rather than applying it to land.

The proposed activity is to begin as soon as possible and is scheduled to last 18 months. An expiration date of March 31, 2008, for this air construction permit should allow sufficient time to complete the required testing and to submit the test reports.

The proposed new emissions units are:

E.U. ID Nos.	Brief Description
-###	Sludge Dryer Train #1
-###	Sludge Dryer Train #2
-###	Recycle Material Bin & Pellet Storage Silo for Sludge Dryer Train #1
-###	Cooling Tower Train #1
-###	Recycle Material Bin & Pellet Storage Silo for Sludge Dryer Train #2
-###	Cooling Tower Train #2
-###	Emergency Generator

4. APPLICABLE REGULATIONS

Regulatory Classifications

Title III: The facility is identified as a major source of hazardous air pollutants (HAPs).

NESHAP: The proposed project will be subject to the requirements of the National Emission Standard for Hazardous Air Pollutants of 40 CFR 61 Subpart E, NESHAP for Mercury.

NESHAP: The facility operates one or more units subject to National Emission Standards for Hazardous Air Pollutants of 40 CFR 63.

MACT: A case-by case MACT was not required. Since neither the NCRRF or the proposed projects are constructed or reconstructed major sources of HAPs, this rule does not apply.

Title IV: The facility operates no units subject to the acid rain provisions of the Clean Air Act.

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.

NSPS: The facility operates one or more units subject to New Source Performance Standards of 40 CFR 60.

Stationary Sources - Emission Standards in Chapter 62-296, F.A.C.: The facility operates one or more units subject to an emission standard.

RACT: The entire State of Florida is either classified as attainment or considered to be in attainment (i.e., unclassifiable) with respect to the NAAQS for all pollutants. In addition, Palm Beach County is not part of any maintenance areas for lead or PM. Therefore, the proposed projects are not subject to the Reasonably Available Control Technology (RACT) requirements for these pollutants in Rule 62-296, F.A.C. The NOx RACT provisions of Rule 62-296.500(b), FAC, do apply to facilities in Palm Beach County. However, new or modified NOx emitting facilities subject to major-source PSD permitting and preparing a BACT analysis are exempt from these requirements. Since the BPF will be meeting NOx BACT, these rules do not apply.

PSD: The facility is an existing PSD-major source of air pollution in accordance with Rule 62-212.400, F.A.C.

Power Plant Siting Act: This project was requested to be an amendment leading to the modification of the existing power plant siting certification PA84-20.

Permit(s) Required

The Department requires the owner or operator of any emissions unit to obtain an appropriate permit prior to beginning construction, modification, or initial or continued operation, unless exempted pursuant to Department rule or statute. The Department has specific rules on when an air construction permit is required {see Rule 62-210.300(1), F.A.C.}, when an air operation permit is required {see Rule 62-210.300(2), F.A.C.} and when activity is exempt from permitting {see Rules 62-210.300(3) and 62-4.040, F.A.C.}. The proposed activity is not specifically exempted from permitting in Rules 62-210.300(3) or 62-4.040, F.A.C.

Air Construction Permit Required

The proposed activity involves the addition of an emissions unit which will result in an increase of actual emissions. The Department requires an air construction permit for the owner or operator to proceed with the proposed activity.

Prevention of Significant Deterioration (PSD) Applicability

The Department regulates major air pollution sources in accordance with Florida's Prevention of Significant Deterioration (PSD) Program, as defined in Rule 62-212.400, F.A.C. PSD preconstruction review is required in areas that are currently in attainment with the state and federal Ambient Air Quality Standards (AAQS) for each regulated pollutant or areas designated as "unclassifiable" for such pollutants. A facility is considered "major" with respect to PSD if it emits or has the potential to emit:

- ≥ 250 tons per year of any regulated pollutant, or
- ≥ 100 tons per year of any regulated pollutant and belonging to one of 28 PSD Major Facility Categories, or
- ≥ 5 tons per year of lead.

This facility includes municipal incinerators, which belongs to the "List of 28 PSD Facility Categories" specified in Table 62-212.400-1, F.A.C. For facilities in the listed categories, the

threshold for classification as a PSD major source is 100 tons per year. This facility is a PSD-major source of air pollution because the potential emissions of several pollutants are greater 100 tons per year. The proposed activity will be located in Palm Beach County, which is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to state and federal Ambient Air Quality Standards (AAQS). As such, all new projects are reviewed for the applicability of PSD preconstruction review based on the PSD Significant Emission Rates (SER) specified in Table 62-212.400-2, F.A.C. Pollutant emissions from the project exceeding these rates are considered "significant" and subject to PSD preconstruction review. This means that the applicant must employ the Best Available Control Technology (BACT) to minimize emissions of each PSD-significant pollutant as well as evaluate the air quality impacts. Although a facility may be "major" with respect to PSD for only one regulated pollutant, the project may be subject to PSD preconstruction review for several PSD-significant pollutants.

The following table summarizes the applicant's PSD applicability analysis for this project.

Table 1. Summary of the Applicant's PSD Applicability

Pollutant	Net Increase, TPY[a]	PSD Threshold, TPY SER	Subject to PSD Review?
CO	33.7	100	No
NOx	52.5	40	Yes
SO_2	39.1	40	No
VOC	9.3	40	No
PM	22.6	25	No
PM_{10}	22.3	15	Yes
TRS compounds H_2S	0.00	10	No
Lead[b]	6.39E-03	0.60	No
Mercury[b]	8.08E-03	0.17	No
Total HAPs[c]	0.85	25	No

a. "TPY" means tons per year.
b. Equivalent TPY values are shown for these air pollutants: the actual rate values are in pounds per year
c. Total HAPs for case-by-case MACT applicability.

As shown in this table, the proposed project is subject to PSD preconstruction review for emissions of: NOx and PM_{10}. {For the detailed summary of emissions see the applicant's **Table 2-1 SWA Biosolids Pelletization Facility, and Class I Landfill Flares Proposed Maximum Potential Controlled Emission Rates and PSD Applicability** in Section 2 of the permit application.}

Applicant's PSD Applicabilty

The Class I Landfill's 1,800 scfm flare has been replaced by a 3,500 scfm flare. Two more flares, a

1,000 scfm flare and a 2,000 scfm flare will be added at the Class I Landfill in the next few years to handle gas generation at full build-out of the Landfill, and to allow for flow variability as the BPF draws up to 2,800 scfm of landfill gas. The flares are a separate project from the BPF, but are being considered in this PPSA because they meet the definition of "contemporaneous" projects in the Prevention of Significant Deterioration Rules (40 CFR 51.166 and 62-212.400, F.A.C.).

A modification to an existing major source is subject to PSD regulations if it is located in a PSD attainment area and it is a major modification. The project site and vicinity are currently considered to be in attainment with air quality standards for all PSD pollutants (40 CFR 81.310 and Rule 62-204, F. A.C.). A major modification is a physical change or a change in method of operation of a major source which would result in a "significant net emissions increase" of a regulated pollutant. In this case, the physical change is the addition of the BPF and the three flares.

Each proposed modification at the NCRRF site is required to take into account all other permitted air emission increases and decreases that have occurred in the 5 years prior to the proposed modification. Since the BPF and flares would all be built within 5 years of each other, they must be considered together in the PSD applicability determination. Similarly, the decommissioning of the existing 1,800 scfm flare at the Class I Landfill has already occurred and must be included with this project for permitting purposes. The rules for calculating the "net emissions increase" for these projects state that maximum potential emission rates be used for the new sources, and actual annual average emission rates (over the most recent 2 years) be used for the calculation of decreases for the decommissioned sources. Since the existing 1,800 scfm was decommissioned before the BPF had commenced full-scale operation, the SWA can take credit for the net reduction in emissions. The calculated net emissions increases for all PSD pollutants are shown in Table 2-1 of the permit application submitted to the Department's power plant siting office. The totals in Table 2-1 reflect that the flare emissions have been reduced by the amount of gas consumed by the BPF. The emissions from the now decommissioned 1,800 scfm flare have been subtracted from the total. The maximum potential annual emission rates presented in Table 2-1 for the new sources were calculated with the assumption that each unit could operate 365 days per year at 100 percent load. As explained in Section 2 of Volume II, three flares (3,500 scfm; 2,000 scfm; and 1,000 scfm each) are proposed to be installed at the Class I Landfill in the same 5-year period as these projects. The 3,500 scfm flare has already been installed and is in use. These three flares are exempt from PSD permitting. However, because they are contemporaneous projects with the BPF, their emission rates are included in the first total shown in Table 2-1. The second total in Table 2-1 shows that the net emissions increase for the BPF project alone would exceed the PSD "significant net emissions increase" threshold (Rule 62-212.400, F.A.C., Table 212.400-2) for nitrogen oxides (NOx) and particulate matter (PM). The proposed BPF project, therefore, is subject to PSD requirements, and a "major" modification to the NCRRF site's existing PSD permit must be prepared.

The SWA is required to apply for a major modification to their existing NCRRF Site PSD Permit due to the emissions increase from the new BPF. More specific details regarding the air emissions from the dryer stack can be found in the PSD permit application.

A detailed summary of the net emissions increases is found in the applicant's **Table 2-1 SWA Biosolids Pelletization Facility, and Class I Landfill Flares Proposed Maximum Potential**

Controlled Emission Rates and PSD Applicability Air Operation Permit Required

The existing facility operates under a Title V permit. A revision to the Title V permit will be required to allow the operation of the proposed activity.

5. APPLICANT'S PROCESS/OPERATION DESCRIPTION

The New England Fertilizer Company (NEFCO) was selected to design, build and operate the project. **Figure 2-4 Process Flow Diagram** in the permit application is a process flow diagram of the drum drying system (DDS). The **Figure 2-3 Proposed Site Plan** is a site layout diagram showing the proposed location of the specific equipment.

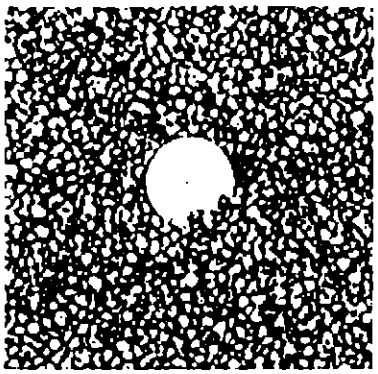
Sludge will be delivered to the site in the form of cake sludge with 20 percent solids content. It is anticipated that the sludge will need to be hauled in dump trucks or trailer trucks that can easily be emptied. The truck will off- load into one of two 30 wet ton reclaim bins that will ultimately feed the two BPF trains.

The DDS uses a portion of the already-dried material as an additive to the dewatered sludge cake to get it past the sticky phase. When mixed. the cake, or "wet" material, coats the dried particles, or "recycled" material, to obtain a non-sticky mixture, usually in the 50 to 70 percent dry solids content range. The added benefit to this process is that the heat energy now needs only to be spent on removing moisture from the surface of each particle, while the core of the particle is already dry.

The evaporation process in the DDS actually takes place within the triple-pass rotating drum. The sludge is conveyed through the rotating drum via flights mounted on the drum walls, until such time as it is dry enough and, therefore, light enough to be lifted and pneumatically-conveyed out of the drum. DDS technology significantly limits over-drying of material, which is where odors are created. The high-speed airstream carries dried particles and the evaporated moisture. The DDS uses a two-stage separation process to remove the solids from the air. Following these stages, the airstream is more than 98 percent clear of particulates.

The material exiting the rotary valve following the separation devices is an agglomerate of particles of all sizes. Many beneficial reuse options require a uniform distribution of particle size. For this reason, it may be necessary to classify the particles by size prior to discharge as final product.

The final product is biosolids pellets, also referred to as pelletized sludge (see the picture below).



http://faculty.washington.edu/clh/leaddemoa.html

The DDS can use different types of fuels such as natural gas or landfill gas/methane. It is the intent of this design to use the landfill gas as the primary source with natural gas as a backup. The gas will fuel the burner to warm the recycled process air via a heat exchanger before it enters the furnace. The maximum heat input to each dryer is 34.2 MMBTU/hr based on landfill gas or 34.1 MMBTU/hr based on natural gas.

6. AIR POLLUTANT EMISSIONS AND CONTROLS

The Class I Landfill has an existing landfill gas collection and control system that combusts the gas in a 3,500 scfm open flare. During operation of the BPF, the flare will be "turned-down" and the Class I Landfill would supply the approximately 2,800 scfm of landfill gas needed by the BPF at the design capacity (84 MMBtu/hr of landfill gas with a heat content of 500 British thermal units per standard cubic feet (btu/scf). The landfill gas burners at the BPF will themselves serve as air pollution devices for controlling the emissions of non-methane organic compounds (NMOCs) from landfill gas. They will be designed to provide 98 percent destruction removal efficiency for NMOCs.

Hot combustion gases (about 841°F at the dryer inlet) will flow through a rotating drum with the biosolids, driving off water, and volatile organic compounds (VOCs). At the dryer exhaust end, a cyclonic separator will remove the pellets and heavier dust particles from the gas stream and send these to screens for size sorting. The exhaust gases, containing products of combustion (nitrogen oxide (NOx), carbon monoxide (CO), and sulfur dioxide (SO_2)), particulate matter (PM), and VOCs, will then go through a tray condenser and venturi scrubber. These devices will remove PM and some SO_2. The gases will then go through a RTO to combust the VOCs before exiting the exhaust stack.

The BPF will include a tray condenser/scrubber and venturi scrubber with cyclonic separator to remove PM_{10} and possible SO_2 along with a regenerative thermal oxidizer (RTO) to combust the VOCs before exiting the exhaust stack. The tray condenser/scrubber will also remove some NH_3. Particulate matter emissions from the screening operation , recycle material and the two pellet storage silos will be controlled by baghouses: the pellets will be conveyed to trucks in an enclosed area to minimize fugitive dust emissions.

Odors of wastewater origin are often formed as a result of bacterial action on wastes when insufficient dissolved oxygen is available to the bacteria or when anaerobic bacteria are part of the unit process as

anaerobic digestion. One way of treating this odor is to collect and treat the odorous gases. There are several methods of treatment for these odors. One such proven technology is wet scrubbing (absorption) by use of packed tower scrubbers. Two separate odor control systems are proposed for the facility. The odor control system will include packed tower scrubbers for the sludge receiving area and an RTO for reduction of odors from the process air train.

The packed tower scrubber receives air from the building area to be treated, which enters the bottom of the tower. A scrubbing liquid such as sodium hypochlorite is sprayed over the top of the packing material, creating a large liquid surface area at the liquid-gas interface. The odorous gas is absorbed by the scrubbing liquid and air, free of these contaminants, will either discharge to the atmosphere or to a second stage packed tower via a mist eliminator. The scrubbing liquid is captured in a sump at the bottom of the scrubber tower where it is pumped back to the top of the scrubber tower. The addition of sodium hydroxide and sodium hypochlorite solutions to the recycling scrubbing liquid will be required to provide a constant inflow of fresh scrubbing chemicals for optimum scrubber performance. Make-up water will be added continuously to maintain a constant water supply. Spent scrubbing liquid will overflow to the onsite wastewater pump station to be pumped to the East Central Regional Wastewater Treatment Facility (WWTF) for further treatment. Two 8-foot diameter tanks, one each for sodium hydroxide and sodium hypochlorite will be used for chemical storage. Both tanks will be surrounded by containment walls.

Each biosolids dryer train will have the following additional air emissions sources: exhaust vent on one recycle material bin exhaust from one fertilizer pellet storage silo, and one cooling tower. All of these are potential sources of PM emissions. Each of two recycle material bins will be ventilated through a fugitive dust control baghouse and then through a building odor scrubber. Dusty air resulting from silo filling operations will be ducted to the recycle bin baghouses, mentioned above. Emissions from the cooling towers and emergency generator are uncontrolled.

7. AVAILABLE INFORMATION

In addition to information provided and referenced in the application, the Department also relied on the following information resources:

RACT/BACT/LAER Clearinghouse (RBLC) database.
World Wide Web site searches.
Additional Information Response.

8. COMMENTS ON THE APPLICATION

Comments from the National Park Service or EPA Region 4.

As of the date of this report, none.

9. AIR QUALITY IMPACT ANALYSIS REVIEW

9.1 Introduction

The proposed project will increase emissions of two pollutants at levels in excess of PSD significant amounts: PM/PM_{10} and NO_X. PM_{10} and NO_X are criteria pollutants and have

national and state ambient air quality standards (AAQS), PSD increments, significant impact levels and de minimis monitoring levels defined for them.

9.2 Major Stationary Sources in Palm Beach County

The current largest stationary sources of air pollution in Palm Beach County are listed below. The information is from annual operating reports submitted to the Department.

Table 9.2.1 Major Sources of NO_X in Palm Beach County (2004)

Owner	Site Name	Tons per year
Florida Power & Light	Riviera	3807.7
Solid Waste Authority	**Palm Beach County**	1121.2 + ***85***
New Hope Power Partnership	Okeelanta Cogeneration Plant	871.7
Sugar Cane Growers Co-Op	Sugar Cane Growers Co-Op	860.6
Florida Power & Light	***West County Energy (proposed)***	***856***
U.S. Sugar Corp.	Bryant Mill	443.2
Osceola Farms	Osceola Farms	348.2
United Technologies Corp.	Pratt & Whitney Aircraft	238

Table 9.2.2. Major Sources of PM in Palm Beach County (2004)

Owner	Site Name	Tons per year
Florida Power & Light	Riviera Power Plant	923
Florida Power & Light	***West County Energy (proposed)***	***652***
Sugar Cane Growers Co-Op	Sugar Cane Growers Co-Op	440
Osceola Farms	Osceola Farms	287
US Sugar Corporation	Bryant Sugar Mill	260
Atlantic Sugar Association	Atlantic Sugar Mill	240
Solid Waste Authority	**Palm Beach County**	73 + ***29***

9.4 Air Quality and Monitoring in the Palm Beach County

The Palm Beach County Health Department operates twelve monitors at seven sites measuring PM_{10}, $PM_{2.5}$, ozone, CO, NO_2 and SO_2. The 2004 monitoring network is shown in the figure below.

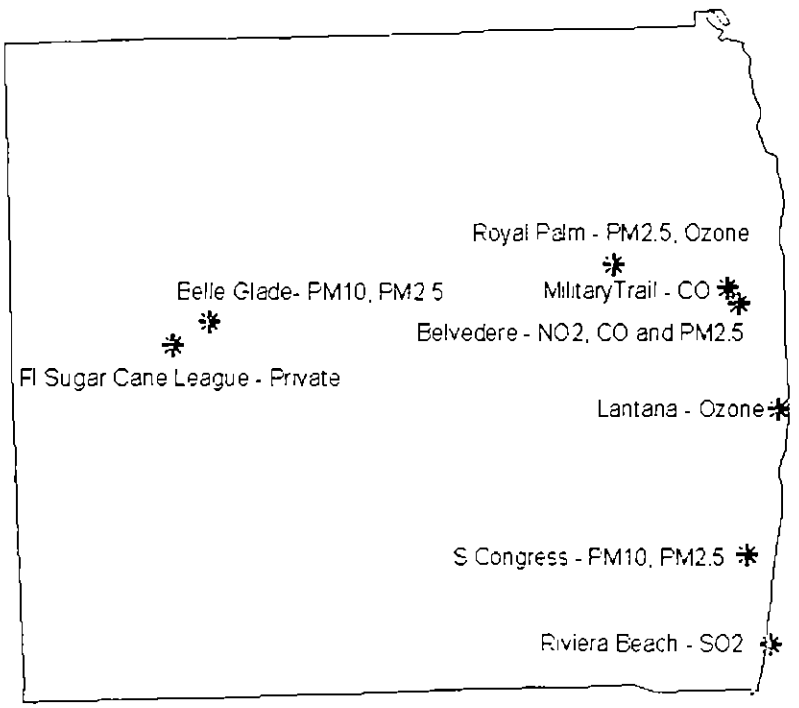


Figure 9.4. The Palm Beach County Health Department Ambient Air Monitoring Network

Measured ambient air quality information is summarized in the following table.

Table 9.4. Ambient Air Quality in Palm Beach County Nearest to Project Site (2004)

Pollutant	Location	Averaging Period	Ambient Concentration				
			High	2nd High	Mean	Standard	Units
PM_{10}	Delray Beach	24-hour	82	62		150 [a]	ug/m^3
		Annual			30*	50 [b]	ug/m^3
SO_2	Riviera Beach	3-hour	2	2		500 [a]	ppb
		24-hour	1	1		100[a]	ppb
		Annual			1*	20 [b]	ppb
NO_2	Palm Beach	Annual			10*	53 [b]	ppb
CO	WPB Military Trail	1-hour	4	4		35 [a]	ppm
		8-hour	2	2		9 [a]	ppm
Ozone	Royal Palm Beach	1-hour	0.080	0.077		0.12 [C]	ppm
		8-hour	0.072	0.069		0.08 [C]	ppm

* The Mean does not satisfy summary criteria due to missing data.

a - Not to be exceeded more than once per year

b - Arithmetic mean
c - Not to be exceeded on more than an average of one day per year over a three-year period

The highest measured values of all pollutants are all less than the respective National Ambient Air Quality Standards (NAAQS). Based on local emission trends, it is not likely that ground-level concentrations will approach the NAAQS levels. The exception is ozone because it is formed from precursors that are clearly available (NO_X and VOC). The precursors are more available during drought years. The tendency to form ozone is accentuated by hot ambient temperature, high pressure, and relatively low wind speed.

9.5 Air Quality Impact Analysis

Significant Impact Analysis

Significant Impact Levels (SILs) are defined for PM/PM_{10}, and NO_X. A significant impact analysis is performed on each of these pollutants to determine if a project can cause an increase in ground level concentration greater than the SIL for each pollutant.

In order to conduct a significant impact analysis, the applicant uses the proposed project's emissions at worst load conditions as inputs to the models. The models used in this analysis and any required subsequent modeling analyses are described below. The highest predicted short-term concentrations and highest predicted annual averages predicted by this modeling are compared to the appropriate SILs for the PSD Class I Everglades National Park (ENP) and the PSD Class II Areas (everywhere except the ENP).

The applicant, in an effort to model worst load conditions, included the three flares (not subject to PSD review) in their modeling analysis to determine whether the project would lead to a violation of the AAQS.

If this modeling at worst-load conditions shows ground-level increases less than the SILs, the applicant is exempted from conducting any further modeling. If the modeled concentrations from the project exceed the SILs, then additional modeling including emissions from all facilities or projects (multi-source modeling) is required to determine the proposed project's impacts compared to the AAQS or PSD increments.

The applicant's initial PM/PM_{10}, and NO_X, air quality impact analyses for this project indicated that maximum predicted impacts from all pollutants are less than the applicable SILs for the Class II area (i.e. all areas except ENP). These values are tabulated in the table below and compared with existing ambient air quality measurements from the local ambient monitoring network.

Table 9.5.1. Maximum Projected Air Quality Impacts from Biosolids Pelletization Facility (Including 3 Flares) for Comparison to the PSD Class II Significant Impact Levels

Pollutant	Averaging Time	Max Predicted Impact (ug/m^3)	Significant Impact Level ($ug\ m^3$)	Baseline Concentrations (ug/m^3)	Ambient Air Standards (ug/m^3)	Significant Impact?
PM_{10}	Annual	0.3	1	~30	50	NO
	24-Hour	3.7	5	~82	150	NO
NO_2	Annual	0.9	1	~19	100	NO

It is obvious that maximum predicted impacts from the project are much less than the respective AAQS and the baseline concentrations in the area. They are also less than the respective significant impact levels that would otherwise require more detailed modeling efforts.

The applicant elected to do modeling for sulfur dioxide and carbon monoxide as well. The results showed concentrations less than the respective significant impact levels and AAQS as well.

The nearest PSD Class I area is the Everglades National Park (ENP) located about 128 km to the south-southwest of the project site. Maximum air quality impacts from the proposed project are summarized in the following table. The results of the initial PM/PM_{10}, and NO_X air quality impact analyses for this project indicated that maximum predicted impacts PM/PM_{10}, and NO_X are less than the applicable SILs for the Class I area. Therefore, no further detailed modeling efforts are required for these pollutants.

Maximum Air Quality Impacts from the Biosolids Pelletization Facility (Including Three Flares) Project for comparison to the PSD Class I SILs at ENP

The applicant also modeled to predict impacts at the Big Cypress National Preserve which is located approximately 112 km to the southwest of the facility. The modeled impacts are also less than the applicable SILs for the area.

Preconstruction Ambient Monitoring Requirements

A preconstruction monitoring analysis is done for those pollutants with listed de minimis impact levels. These are levels, which, if exceeded, would require pre-construction ambient monitoring. For this analysis, as was done for the significant impact analysis, the applicant uses the proposed project's emissions at worst load conditions as inputs to the models. As shown in the following table, the maximum predicted impacts for all pollutants with listed de minimis impact levels were less than these levels. Therefore, no pre-construction monitoring is required for those pollutants.

Table 9.5.2. Maximum Air Quality Impacts for Comparison to the De Minimis Ambient Impact Levels.

Pollutant	Averaging Time	Max Predicted Impact (ug/m^3)	De Minimis Level (ug/m^3)	Baseline Concentrations (ug/m^3)	Impact Greater Than De Minimis?
PM_{10}	24-hour	4	10	~82	NO
NO_2	Annual	0.9	14	~19	NO

Based on the preceding discussions, the only additional detailed air quality analyses (inclusive of all sources in the area) required by the PSD regulations for this project are the following:

- An analysis of impacts on soils, vegetation, visibility, and of growth-related air quality modeling impacts.

Models and Meteorological Data Used in the Air Quality Analysis

PSD Class II Area: The EPA-approved Industrial Source Complex Short-Term (ISCST3) dispersion model was used to evaluate the pollutant emissions from the proposed project in the surrounding Class II Area. This model determines ground-level concentrations of inert gases or small particles emitted into the atmosphere by point, area, and volume sources. It incorporates elements for plume rise, transport by the mean wind, Gaussian dispersion, and pollutant removal mechanisms such as deposition.

The ISCST3 model allows for the separation of sources, building wake downwash, and various other input/output parameters. A series of specific model features, recommended by the EPA, are referred to as the regulatory options. The applicant used the EPA recommended regulatory options. Direction-specific downwash parameters were used for all sources for which downwash was considered. The stacks associated with this project all satisfied the good engineering practice (GEP) stack height criteria.

Meteorological data used in the ISCST3 model consisted of a concurrent 5-year period of hourly surface weather observations and twice-daily upper air soundings from West Palm Beach Airport. The 5-year period of meteorological data was from 1987 through 1991. This airport station was selected for use in the study because it is the closest primary weather station to the study area and is most representative of the project site. The surface observations included wind direction, wind speed, temperature, cloud cover, and cloud ceiling.

In reviewing this permit application, the Department has determined that the application complies with the applicable provisions of the stack height regulations as revised by EPA on July 8, 1985 (50 FR 27892). Portions of the regulations have been remanded by a panel of the U.S. Court of Appeals for the D.C. Circuit in NRDC v. Thomas, 838 F. 2d 1224 (D.C. Cir. 1988). Consequently, this permit may be subject to modification should EPA revise the regulation in response to the court decision. This may result in revised emission limitations or may affect other actions taken by the source owners or operators. A more detailed discussion of the required analyses follows.

PSD Class I Area: The California Puff (CALPUFF) dispersion model was used to evaluate the pollutant emissions from the proposed project in the Class I ENP and Big Cypress National Preserve beyond 50 km from the proposed project. The applicant used CALPUFF in the "screening" mode and therefore used the same meteorological data that was used for the ISCST model processed in a different manner.

CALPUFF is a non-steady state, Lagrangian, long-range transport model that incorporates Gaussian puff dispersion algorithms. This model determines ground-level concentrations of inert gases or small particles emitted into the atmosphere by point, line, area, and volume sources.

The CALPUFF model has the capability to treat time-varying sources, is suitable for modeling domains from tens of meters to hundreds of kilometers, and has mechanisms to handle rough or complex terrain situations. Finally, the CALPUFF model is applicable for inert pollutants as well as pollutants that are subject to linear removal and chemical conversion mechanism.

9.6 Additional Impacts Analysis

Impact on Soils, Vegetation, and Wildlife:

The maximum ground-level concentrations predicted to occur for PM_{10} and NO_X as a result of the proposed project, including background concentrations and all three flares (not subject to PSD), will be considerably less than the respective AAQS. Since the project impacts are either less than significant or considerably less than the AAQS, it is reasonable to assume the impacts on soils, vegetation, or wildlife will be minimal or insignificant.

As part of the Additional Impact Analysis, Air Quality Related Values (AQRV) are evaluated with respect to the Class I area. This includes the analysis of sulfur and nitrogen deposition. The CALPUFF model is also used in this analysis to produce quantitative impacts. The results of the analysis show that nitrogen and sulfur deposition rates are below the significant impact levels (0.01 kg/ha/yr) determined by the National Park Service for the ENP.

According to the applicant, the predicted deposition rates of sulfur and nitrogen (0.0003 and 0.0001 kg/ha/yr respectively) impacts are still much less than the buffering capacities of the soils in the ENP and much less than the observed deposition rates existing in the area.

Impact on Visibility:

The applicant submitted a regional haze analysis for the ENP and the Big Cypress National Preserve. The analysis included modeling from the CALPUFF model. The Visibility Analysis showed that the proposed project will be well below the visibility threshold of 5% in change in light extinction for both sensitive areas.

Growth-Related Impacts Due to the Proposed Project:

According to the applicant, the proposed project will add approximately 13 new permanent employees. This increase will not result in significant commercial and residential growth near the project. Few new permanent employees will cause no significant impact on the local area.

Growth-Related Air Quality Impacts since 1977:

According to the applicant, the population of Palm Beach County has more than doubled since the late seventies. This population currently works in the Trade, Transportation and Utilities sector, which includes the retail industry and the Professional and Business Services sector mostly.

Although, the population has increased greatly, the air pollution trends do not show an increase in pollutant concentrations with this population growth. The county is in attainment with the NAAQS.

Despite the growth in Southeast Florida, air quality has improved as evidenced by the redesignation of the Tri-County (Broward, Miami-Dade, and Palm Beach) area to attainment status with respect to the ozone standard.

10. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete PSD permit application, reasonable

assurances provided by the applicant, the draft determinations of Best Available Control Technology (BACT), review of the air quality impact analysis, and the conditions specified in the draft permit.

Deborah Nelson is the project meteorologist responsible for reviewing and validating the air quality impact analysis. She may be contacted at deborah.nelson@dep.state.fl.us and 850/921-9537.

Scott M. Sheplak is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer by telephone 850/921-9537 or e-mail Scott.Sheplak@dep.state.fl.us in the Department's Bureau of Air Regulation at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

{Filename: PSD-FL-108F TEPD}

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

Solid Waste Authority of Palm Beach County
North County Resource Recovery Facility Site
PSD-FL-108F and 0990234-006-AC
Palm Beach County, Florida

BACKGROUND

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

Authorized Representative: Mr. John D. Booth, Executive Director

APPLICATION PROCESSING SCHEDULE

May 4, 2005	Received application to construct; incomplete.
July 15, 2005	Incompleteness letter.
August 30, 2005	Received additional information; application complete.

{Note: The applicant requested a modification to their original project submitted in July 2002. The applicant has withdrawn the lime recalcination part of the project and increased the biosolids pelletization rate from 400 wet TPD to 675 wet TPD.}

The applicant, Solid Waste Authority of Palm Beach County, proposes to construct a 675 wet tons of sludge per day (wtpd, at 20% solids) Biosolids Pelletization Facility (BPF). The BPF will have two 337.5 wtpd process trains and related appurtenances. The proposed BPF will be located adjacent to the existing landfill. Each dryer train at the BPF will combust landfill gas generated from the nearby landfill in a rotary drum dryer to dry sewage sludge, and then screen the dried sludge into marketable fertilizer pellets. Natural gas will be used as a backup fuel. Each dryer has a rated capacity of 34.2 MMBTU/hr based on landfill gas or 34.1 MMBTU/hr based on natural gas. An additional 2 MMBtu/hr is required for each regenerative thermal oxidizer (RTO) making the total design capacity of each train 42 MMBtu (84 MMBtu total for the BPF).

AIR POLLUTION CONTROL TECHNOLOGY REVIEW

Applicant's NOx and PM Review

Summary of NOx Control Technologies Reviewed by the Applicant

In Section 5 of the PSD permit application, the applicant provided a thorough review of NOx control technologies. The use of NOx controls will reduce NOx emissions by at least 50%. The applicant reviewed the following NOx control strategies: (1) low temperature SCR; (2) low temperature ozone oxidation; (3) multi-chemical wet scrubbing system; and, (4) low NOx burners with acid addition. The cost $/ton of NOx removed for each respective strategy is: (1) $17,700; (2) $29,900 (3) $20,200 and, (4) $2,900. The only technology determined to be technically and economically feasible is the low NOx burners with acid addition. The Greater Lawrence Sanitary

District and Massachusetts Water Resource Authority have low NOx burners on the dryer and RTO and acid addition to the condenser/scrubber. According to the applicant, no other controls were indicated in use by other biosolids suppliers.

Summary of PM Control Technologies Reviewed by the Applicant

In Section 5 of the PSD permit application, the applicant provided a thorough review of PM control technologies. A tray condenser/scrubber and exhaust gas recirculation is considered to be integral parts of the dryer system. The use of the tray condenser/scrubber will achieve 97% control. After the tray condenser/scrubber the exhaust stream is split with 75% of the stream being recycled back to the dryer. The remaining 25% of the exhaust stream goes to a venturi scrubber to remove particles prior to the regenerative thermal oxidizer (RTO) to prevent PM from clogging the heat exchanger media in the RTO. Control technologies were evaluated for the remaining 25% gas stream. The uses of three additional control technologies were evaluated: (1) fabric filter; (2) dry ESP; and, (3) wet ESP. The cost $/ton to remove PM from each of these technologies is respectively: (1) $26,700; (2) $31,600; and, (3) $29,400. According to the applicant, none of these additional control technologies are economically feasible.

The proposed BPF and combined flare maximum expected air pollutant emission rates, based on regulatory requirements, vendor information, and the results of the Best Available Control Technology (BACT) analysis are summarized in Section 5 of Volume II of the permit application.

In summary, the applicant proposes the use of dry low NOx burners with acid addition in the tray/condenser scrubber to control NOx emissions from each dryer's exhaust. The applicant proposes to use a tray/condenser scrubber and a venturi scrubber to control PM emissions from each dryer's exhaust. The BPF will also use a regenerative thermal oxidizer (RTO) on the dryer exhaust to control VOC emissions and odors. Fabric filters will be used on each material recycle bin exhaust and each pellet storage silo exhaust to control PM emissions.

Department's Preliminary NOx and PM BACT Determinations

Due to the limited information available in the RBLC database, similar projects were reviewed. Large metropolitan areas were researched due to large quantities of wastewater sludge generated used to produce biosolids.

In the response to request additional information dated August 16, 2005, the applicant provided a summary of projects around the country. The table lists the projects, location, air pollution control systems and startup year. All of the plants with drum dryers use a one or two stage scrubbing system. The larger biosolid facilities use RTOs. (See the **Table 1 Municipal Biosolids Dryer Plants in the USA** provided in the Response to Request for Additional Information dated August 16, 2005)

The applicant provided actual performance data summarizing key information from the Greater Lawrence Sanitary District project located in North Andover, Massachusetts which is very similar to the proposed project. The applicant's summary included a scaling of this project to this

operating project, e.g., size of unit, air pollutant emission rates, fuels, etc. This BPF project will be unique in that it will be the first biosolids drying facility to use landfill gas as its primary fuel. The control technologies proposed for this project are proven at the operating Greater Lawrence Sanitary District project. The Greater Lawrence Sanitary District project started up in 2003.

General manufacturer information for the BACT technology proposed specifically, the dry low NOx burners, tray scrubber/condenser scrubber, and venturi scrubber was also provided. The dry low NOx burners are Kinedizer® gas burners provided by Maxon Corporation. The scrubber manufacturer is SLY, Inc. The tray scrubber/condenser scrubber alone will reduce inlet PM at least 97% {See **Attachment 2 Manufacture's Product Literature** provided the Response to Request for Additional Information dated August 16, 2005}

The applicant provide information on 30 projects around the U.S. with 10 of the projects having start up dates between 2003 and 2006 {See the **Table 1 Municipal Biosolids Dryer Plants in the USA.**} This proposed project's control technologies are consistent with the few recent projects using dry low NOx burners and RTOs.

The department accepts the applicant's proposed BACT technologies. The proposed control technology proposed for PM emissions is readily available and proven. The use of additional PM controls is not cost effective; the cost to remove additional PM is between $26,000 and $32,000 /ton. The proposed control technology for NOx emissions, specifically, dry low NOx burners, is readily available and is demonstrated in other types of stationary sources of air pollution. The use of dry low NOx burners with an estimated cost of $2,900/ton is cost effective. In general, a cost effectiveness value for NOx control is $18,000/ton.

BACT EMISSION LIMITATIONS AND STANDARDS

Department's Procedure

In accordance with Rule 62-212.400, F.A.C., 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:

- Any Environmental Protection Agency determination of BACT 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.
- All scientific, engineering, and technical material and other information available to the Department.
- The emission limiting standards or BACT determination of any other state.
- The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "Top-Down" approach, particularly when permits are issued by states acting on behalf of EPA. The Department considers Top-Down to be a useful tool, though not a unique or required approach to achieve a BACT under the State regulations. The first step in this approach is to determine, for the emission unit in question, the most stringent control available for a similar or identical emission unit or emission unit category.

If it is shown that this level of control is technically or economically unfeasible for the emission unit 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.

NSPS AND NESHAP REVIEW

The NSPS and NESHAP federal regulations do not contain emission standards or limitations for NOx or PM/PM_{10}.

The BPF dryer is subject to the mercury standard under the National Emission Standard for Hazardous Air Pollutants (NESHAP), 40 CFR 61, Subpart E. The mercury emissions standard under the NESHAP is 3.2 kg (7.1 lb) of mercury per 24-hour period. This is equivalent to 1.296 TPY. The applicant proposed a limit of 8.08 E-03 TPY which is much lower than the NESHAP and the significant emission rate for Hg. This facility is not subject to BACT requirements for mercury (Hg).

VE STANDARDS REVIEW

While the general VE standard in Rule 62-296.320, F.A.C., limits VE to 20% from each train's stack, a VE limit of 5% with the exception for 20% up to 3-minutes in 1-hour should be attainable; expected VE from such an emissions unit is 0%. The Greater Lawrence Sanitary District, City of Largo and the City of Tampa units meet a VE limit of 5%.

BACT Emission Limitations and Standards

The emission limitations and standards from three similar facilities were reviewed two of which are located in Florida. The three facilities reviewed were: (1) Greater Lawrence Sanitary District project located in North Andover, Massachusetts; (2) City of Largo and. (3) City of Tampa. Each 337.5 TPD dryer train of this project processes an equivalent 123,187 TPY of sludge. Emissions standards and limitations from these projects are summarized below.

(1) Greater Lawrence Sanitary District (GLSD). This wastewater treatment plant project is located in North Andover, Massachusetts. This facility processes approximately 13,870 TPY dry biosolids (the wet sludge moisture content is 70% per Massachusetts DEP). Emissions are controlled by tray scrubbers with acid addition, venturi scrubbers and RTOs. PM is limited to 0.64 pounds/hour; VE 5%, and NOx to 1.20 pounds/hour. The applicant scaled the emission limits from the GLSD by a factor of 3 to this project as follows: PM to 2.42 pounds/hour; and NOx to 4.54 pounds/hour.

(2) City of Largo. The City of Largo Wastewater Reclamation Facility located in Pinellas County, Florida operates two sludge dryer trains. The facility was upgraded in 1991. Each train processes

143,138.TPY of wet sludge. Emissions are controlled by venturi scrubbers and an RTO. PM is limited to 3 pounds/hour; VE 5%, and VOC to 2.05 pounds/hour.

(3) City of Tampa. The City of Tampa Howard F. Curren AWT Plant located in Hillsborough County, Florida operates two sludge dryer trains. Each train processes 13,248 TPY of wet sludge. This facility began operations in 1990. Emissions are controlled by venturi scrubbers and an RTO. PM is limited to 10.3 pounds/hour; VE 5%, and VOC to 7.1 pounds/hour.

Based on the selected control technologies the BACT emission limitations and standards proposed for this project are shown in **Table AP-1 Summary of Air Pollutants**. BACT standards are established for PM/PM_{10}, opacity and NOx. Emissions of SO_2, CO, VOC and Hg are limited for reasonable assurances. Emissions from each train are calculated in the exhaust gases exiting the dryer and RTO. Establishment of a performance standard on the dry low NOx burners themselves was not possible due to the design of each train; NOx emissions are also formed in the RTO.

DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:

Recommended By:

Scott M. Sheplak, P.E., Permit Engineer

Date

Reviewed By:

A. A. Linero, P.E. Administrator

Date

Air Permitting South Section
Bureau of Air Regulation
Division of Air Resource Management
State of Florida, Department of Environmental Protection
Mail Station #5505
2600 Blair Stone Road
Tallahassee, FL 32399

Recommended By:

Trina L. Vielhauer
Bureau of Air Regulation

Date

Approved By:

Michael G. Cooke, Director
Division of Air Resource Management

Date

Table AP-1. Summary of Air Pollutants

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

				Emission Limitations and Standards [1]			Equivalent Emissions		
Emissions Unit	Pollutant(s)	Fuel(s)	Hours	Standard(s)	lb/hr	TPY	lb/hr	TPY	Regulatory Citation(s)
	NO_X								
Sludge Dryer Train #1		landfill gas	8760	-	5.60	24.5	5.60	24.55	BACT
Sludge Dryer Train #2		landfill gas	8760	-	5.60	24.5	5.60	24.55	BACT
				(subtotal		49.1		49.1)	BACT
Emergency Generator			8760	-	-	-	-	3.4	BACT
								52.5	BACT
	PM/PM_{10} & Opacity								
Sludge Dryer Train #1		landfill gas	8760	5% opacity; except 20% for up to 3 minutes in 1-hour	2.42	10.6	2.42	10.6	BACT
Sludge Dryer Train #2		landfill gas	8760	5% opacity; except 20% for up to 3 minutes in 1-hour	2.42	10.6	2.42	10.6	BACT
				(subtotal		21.2		21.2)	BACT
Emergency Generator			8760	0.697 g/bhp-hr [2]	-	-	-	0.2	BACT
Material Bins & Silos		-	8760	0.010 gr/dscf; 5% opacity	-	-	-	0.6	BACT
Cooling Tower		-	8760	3333 ppm in drift [2]	-	-	0.06	0.274	BACT
								22.3	BACT
	SO_2								
Sludge Dryer Train #1		landfill gas	8760	190 ppmvd sulfur content [2]	4.45	19.5	4.45	19.5	Rule 62-4.070, F.A.C.
Sludge Dryer Train #2		landfill gas	8760	190 ppmvd sulfur content [2]	4.45	19.5	4.45	19.5	Rule 62-4.070, F.A.C.
					8.9	39	8.9	39	Rule 62-4.070, F.A.C.
	CO								
Sludge Dryer Train #1		landfill gas	8760	-	3.37	14.75	3.37	14.75	Rule 62-4.070, F.A.C.
Sludge Dryer Train #2		landfill gas	8760	-	3.37	14.75	3.37	14.75	Rule 62-4.070, F.A.C.
					6.74	29.5	6.74	29.5	Rule 62-4.070, F.A.C.
	VOC								
Sludge Dryer Train #1		landfill gas	8760	-	1	4.4	1	4.4	Rule 62-4.070, F.A.C.
Sludge Dryer Train #2		landfill gas	8760	-	1	4.4	1	4.4	Rule 62-4.070, F.A.C.
					2	8.8	2	8.8	Rule 62-4.070, F.A.C.
	Hg								
Sludge Dryer Train #1		landfill gas	8760	2.2 E-02 lb/24-hour period			9.22 E-04	4.04 E-03	Rule 62-4.070, F.A.C.
Sludge Dryer Train #2		landfill gas	8760	2.2 E-02 lb/24-hour period			9.22 E-04	4.04 E-03	Rule 62-4.070, F.A.C.
								8.08 E-03	Rule 62-4.070, F.A.C.

[1] standard unless otherwise noted.

[2] not a standard; a basis for a standard.

Table 2-1 SWA Biosolids Pelletization Facility, and Class I Landfill Flares Proposed Maximum Potential Controlled Emission Rates and PSD Applicability

PSD Pollutant		Biosolids Pelletizing Facility (BPF)					Flares		BPF and Flares TOTAL [e]	BPF Only TOTAL	PSD Significant Net Emissions Increase [f]
		Two Rotary Dryers [a]	Two Recycle Bins with Baghouse [b]	Two Cooling Towers [c]	Emergency Generator Engine	BPF Subtotal (tons/year)	3,500-scfm, 1,000-scfm, and 2,000-scfm Flares [d]	Existing 1,800-scfm Flare to be Replaced [d]			
Carbon Monoxide (CO)	Basis	3 37 lb/hr each	---	---	8 5 g/bhp-hr each	---	0 37 lb/MMBtu	750 lb/10^6 dscf CH_4			
	Tons/Year	*29 5*	—	—	*4.19*	*33 7*	*362.7*	*-101 6*	**261.1**	**33.7**	100
Nitrogen Oxides (NO_x)	Basis	5.60 lb/hr each	---	---	6 9 g/bhp-hr each	---	0 068 lb/MMBtu	40 lb/10^6 dscf CH_4			
	Tons/Year	*49 1*	—	—	*3 4*	*52 5*	*38 0*	*-5 4*	**85.1**	**52.5**	40
Sulfur Dioxide (SO_2)	Basis	4 45 lb/hr each	---	---	0 183 g/bhp hr each	---	190 ppmv sulfur in gas	190 ppmv sulfur in gas			
	Tons/Year	*39.0*	—	—	*0 09*	*39.1*	*30 7*	*-8 6*	**61.2**	**39 1**	40
Particulate Matter (total) (PM)	Basis	2.42 lb/hr each	0.010 gr/dscf actual	3333 ppm in drift	0 697 g/bhp-hr each	---	17 lb/10^6 dscf CH_4	17 lb/10^6 dscf CH_4			
	Tons/Year	*21 2*	*0.6*	*5 50E-01*	*2 00E-01*	*22 6*	*9 1*	*-2 3*	**29.4**	**22.6**	25
Particulate Matter < 10 Microns (PM_{10})	Basis	2.42 lb/hr each	0 010 gr/dscf actual	3333 ppm in drift	0.697 g/bhp-hr each	---	17 lb/10^6 dscf CH_4	17 lb/10^6 dscf CH_4			
	Tons/Year	*21 2*	*0 6*	*2 74E-01*	*2.00E-01*	*22 3*	*9 1*	*-2 3*	**29.1**	**22.3**	15
Volatile Organic Compounds (VOC)	Basis	1 0 lb/hr each	---	---	0.97 g/bhp-hr each	---	98% DRE	98% DRE			
	Tons/Year	*8.8*	—	—	*0 48*	*9 3*	*2 4*	*-0 7*	**11.0**	**9.3**	40
Lead (Pb)	Basis	7.3E-04 lb/hr each	---	---	---	---	---	---			
	Tons/Year	*6 39E-03*	—	---	—	*6 39E-03*	—	—	**6 39E-03**	**6.39E-03**	*0 6*
Mercury (Hg)	Basis	---	---	---	---	---	---	---			
	Tons/Year	*8 08E-03*	—	—	—	*8 08E-03*	—	—	**8 08E-03**	**8 08E-03**	0 1 [g]
Hydrogen Sulfide (H_2S)	Basis	---	---	---	---	---	---	---			
	Tons/Year	—	---	—	—	*0 00*	---	---	**0.00**	**0.00**	10
Total Hazardous Air Pollutants (HAPs)	Tons/Year	0 51	---	---	---	*0 51*	0 48	-0 14	**0 85**	**0 51**	25 [g]

Notes: See Section 4 and Appendix E for bases and calculations. Section 4 also describes air pollution control equipment. For conservatism, all PM is assumed to be PM10.

(a) Biosolids dryer emission rates are from upper-bound vendor estimates (see Appendix E) for all pollutants except NOx and total HAPs. NOx emission rate is BACT for a low-NOx burner (see Section 5). Total HAP emission rates are based on AP-42 for landfill gas, and on vendor estimates of sludge metals content.

(b) PM emission rates from the biosolids pellet recycle bin are based on vendor-guaranteed PM outlet concentration for baghouse and design air flow rate.

(c) PM emission rate is based on AP-42 for cooling towers, and design water circulation rate.

(d) Flare emission rate calculations are based on AP-42 for all pollutants. The flares are required to achieve a 98% destruction removal efficiency (DRE) for NMOC. 3-flare total shown is net of the 2 800 scfm gas flow to the BPF, except for CO. For CO, all gas is shown going to the flares.

(e) The flares only combust landfill gas not being used by the BPF. Therefore, the total maximum potential emission rates are not the sum of the maximum potential emission rates of the the BPF, and 3 Flares, but are based on the worst-case operating condition for each pollutant. The worst case for CO and total HAPs is all landfill gas going to the Flares with the BPF not operating. For all other pollutants the worst case is the BPF operating at capacity, with the Flares combusting only the remaining gas flow rate of 3,700 scfm. The total also reflects the reduction in actual emissions resulting from decomissioning the existing 1,800-scfm flare.

(f) Rule 62-212.400, F.A.C., Table 212.400-2.

(g) The Clean Air Act Amendments Section 112(b)(6) exempts listed HAPs from PSD review.

Table 1 Municipal Biosolids Dryer Plants in the USA

No.	Facility or Owner	Location	APC Systems	Start-up Year
1	Hillsborough County Water Department	Tampa, FL	Tray scrubber, ventun scrubber, RTO	2006
2	Archie Elledge WWTP	Winston-Salem, NC	Tray scrubber, venturi scrubber, RTO	2006
3	Encina Water Pollution Control Facility	Carlsbad, CA	Tray scrubber, venturi scrubber, RTO	2006
4	Bonita Springs Utilities - East Water Reclamation Facility	Bonita Springs, FL	Tray scrubber, venturi scrubber, RTO	2006
5	City of Corona	Corona, CA	Spray tower scrubber, venturi scrubber, RTO	2006
6	Town of Cary, NC - South Cary Water Reclamation Facility	Cary, NC	Tray scrubber, venturi scrubber	2005
7	Pierce County WWTP	Pierce County, WA	Tray scrubber, venturi scrubber	2005
8	Sacramento WWTP	Sacramento, CA	Tray scrubber, venturi scrubber, RTO	2004
9	Greater Lawrence Sanitary District WWTP	North Andover, MA	Tray scrubber with acid addition, venturi scrubber, RTO	2003
10	City of Honolulu	Honolulu, Hawaii	Tray scrubber, venturi scrubber	2003
11	Pinellas County Utilities	St. Petersburg, FL	Tray scrubber, venturi scrubber	2002
12	Jacksonville Electric Authority	Jacksonville, FL	Tray scrubber, venturi scrubber	2001
13	Louisville & Jefferson County Metropolitan Sanitary District	Louisville, KY	Tray scrubber, venturi scrubber	2001
14	City of Leesburg	Leesburg, VA	Tray scrubber, venturi scrubber	2001
15	Escambia County Utility Authority	Pensacola, FL	Tray scrubber	2000
16	Aiken County Public Service Auth. - Horse Creek WWTP	Aiken County, SC	Tray scrubber, venturi scrubber	2000
17	Blue Lake WWTP - Metropolitan Council Environmental Services	Minneapolis, MN	Packed tower scrubber with acid addition, venturi scrubber, RTO	1998
18	City of Sumter - Pocotaligo WWTP	Sumter, SC	Tray scrubber, venturi scrubber	1997
19	Ocean County Utility Authority	Bayville, NJ	Tray scrubber, venturi scrubber	1997
20	Town of Amherst WWTP	Amherst, NY	Tray scrubber, venturi scrubber	1997
21	Upper Occoquan Sewage Authority	Occoquan, VA	Packed tower scrubber, thermal oxidation	1997
22	Back River WWTP	Baltimore, MD	Packed tower scrubber, thermal oxidation	1995
23	Brazos River Authority WWTP	Waco, TX	Tray scrubber, venturi scrubber	1995
24	New York City	NYC, NY Bronx Borough	Venturi scrubber with acid addition, RTO	1993
25	Massachusetts Water Resources Authority	Quincy, MA	Packed tower scrubber with acid addition, RTO	1991 upgr 1999
26	Hagerstown WWTP	Hagerstown, MD	Venturi scrubber, RTO	1990
27	Howard F. Curren WWTP	Tampa, FL	Venturi scrubber, RTO	1990
28	Cobb County WWTP	Cobb County, GA	Venturi scrubber, mist chamber scrubber	1980
29	City of Largo	Largo, FL	Venturi scrubber, RTO	1976 upgr 1991
30	Clayton County WWTP	Clayton County, GA	Packed tower scrubber	1976

Department of Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

P.E. Certification Statement

Permittee:
Solid Waste Authority of Palm Beach County
North County Resource Recovery Facility (NCRRF)

Permit No.: 0950137-006-AC and PSD-FL-108F

Project type: Air Construction Permit
Biosolids Pelletization Facility

I HEREBY CERTIFY *that the engineering features described in the above referenced application 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, e. g., the air quality impact analysis (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).*

Scott M. Sheplak, P.E. — Date
Registration Number: 48866

Permitting Authority:
Department of Environmental Protection
Bureau of Air Regulation
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32301
Telephone: 850/921-9532
Fax: 850/921-9533

DRAFT

PERMITTEE

Solid Waste Authority of Palm Beach County
North County Resource Recovery Facility (NCRRF)
7501 North Jog Road
West Palm Beach, Florida 33412-2414

Permit No.: 0950137-006-AC and PSD-FL-108F
Expires: March 31, 2008
Facility ID No.: 0990234
Project: Biosolids Pelletization Facility

PROJECT AND LOCATION

This permit authorizes the construction of a 675 wet tons per day of sludge (wtpd, at 20% solids) Biosolids Pelletization Facility (BPF).

The facility, North County Resource Recovery Facility (NCRRF), 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.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the work specified in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department.

APPENDICES

The following appendices are attached as part of this permit.

Appendix GC - Construction Permit General Conditions
Appendix BD - BACT Determination
Table AP-1 Summary of Air Pollutants
Appendix 40 CFR 61 Subpart A - NESHAP General Provisions (version dated 05/06/04)
Appendix 40 CFR 61 Subpart E - NESHAP for Mercury (version dated 03/20/03)
Appendix SS-1, Stack Sampling Facilities

Michael G. Cooke, Director
Division of Air Resource Management

FACILITY DESCRIPTION

The facility, North County Resource Recovery Facility (NCRRF), 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. {See Figure No. 2-4 provided by the applicant showing the proposed site for this project}

This existing facility consists of a *very large* municipal waste combustor plant designed to process 2,000 tons per day (TPD) of municipal solid waste (MSW). This existing facility includes two boilers and two landfills, a Class I Landfill and a Class III Landfill, each with its own gas collection system and flare.

PROJECT

The permittee, Solid Waste Authority of Palm Beach County, proposes to construct a 675 wet tons of sludge per day (wtpd, at 20% solids) Biosolids Pelletization Facility (BPF). The BPF will have two 337.5 wtpd process trains and related appurtenances. The proposed BPF will be located adjacent to the existing landfill. Each dryer train at the BPF will combust landfill gas generated from the nearby landfill in a rotary drum dryer to dry sewage sludge, and then screen the dried sludge into marketable fertilizer pellets. Natural gas will be used as a backup fuel. Each dryer has a rated capacity of 34.2 MMBTU/hr based on landfill gas or 34.1 MMBTU/hr based on natural gas.

Regulatory Classifications

Title III: The facility is identified as a major source of hazardous air pollutants (HAPs).

NESHAP: The proposed project will be subject to the requirements of the National Emission Standard for Hazardous Air Pollutants of 40 CFR 61 Subpart E, NESHAP for Mercury.

NESHAP: The facility operates one or more units subject to National Emission Standards for Hazardous Air Pollutants of 40 CFR 63.

MACT: A case-by case MACT was not required. Since neither the NCRRF or the proposed projects are constructed or reconstructed major sources of HAPs, this rule does not apply.

Title IV: The facility operates no units subject to the acid rain provisions of the Clean Air Act.

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.

NSPS: The facility operates one or more units subject to New Source Performance Standards of 40 CFR 60.

Stationary Sources - Emission Standards in Chapter 62-296, F.A.C.: The facility operates one or more units subject to an emission standard.

RACT: The entire State of Florida is either classified as attainment or considered to be in attainment (i.e., unclassifiable) with respect to the NAAQS for all pollutants. In addition, Palm Beach County is not part of any maintenance areas for lead or PM. Therefore, the proposed projects are not subject to the Reasonably Available Control Technology (RACT) requirements for these pollutants in Rule 62-296, F.A.C. The NOx RACT provisions of Rule 62-296.500(b), FAC, do apply to facilities in Palm Beach County. However, new or modified NOx emitting facilities subject to major-source PSD permitting and preparing a BACT analysis are exempt from these requirements. Since the BPF will be meeting NOx BACT, these rules do not apply.

PSD: The facility is an existing PSD-major source of air pollution in accordance with Rule 62-212.400, F.A.C.

Power Plant Siting Act: This project was requested to be an amendment leading to the modification of the existing power plant siting certification PA84-20.

RELEVANT DOCUMENTS

- Permit PSD-FL-108E
- Power Plant Siting Act Certification PA84-20
- Current Title V Air Operation Permit 0990234-004-AV
- Department's Technical Evaluation & Preliminary Determination dated [Month day, 2005]

GENERAL AND ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: All documents related to applications for permits to construct, modify or operate this emissions unit shall be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (DEP), at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 and phone number 850/488-0114. Copies of these documents shall be submitted to the Compliance Authority.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications should be submitted to the compliance authority.
3. General Conditions: The owner and operator are subject to, and shall operate under, the attached General Conditions listed in *Appendix GC* of this permit. General Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of this project shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403 of the Florida Statutes (F.S.); and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
5. Permit Expiration: For good cause, the permittee may request that this air construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation at least sixty (60) days prior to the expiration of this permit. [Rules 62-4.070(4), 62-4.080, and 62-210.300(1), F.A.C.]
6. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
7. Modifications: No emissions unit or facility subject to this permit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
8. Title V Permit: This permit authorizes construction of the proposed project and initial operation to determine compliance with Department rules. This project involves no changes in the descriptions, applicable requirements, or conditions of the facility Title V Operation Permit. The permittee is required to apply for a revised Title V operation permit following completion of the project.

The proposed new emissions units are:

E.U. ID Nos.	Brief Description
-###	Sludge Dryer Train #1
-###	Sludge Dryer Train #2
-###	Recycle Material Bin & Pellet Storage Silo for Sludge Dryer Train #1
-###	Cooling Tower Train #1
-###	Recycle Material Bin & Pellet Storage Silo for Sludge Dryer Train #2
-###	Cooling Tower Train #2
-###	Emergency Generator

CONSTRUCTION ACTIVITIES

1. Unconfined Particulate Matter Emissions: Pursuant to Rules 62-296.320(4)(c)1., 3. & 4., F.A.C., reasonable precautions to prevent emissions of unconfined particulate matter at the BPF include the following requirements consistent with current practices by the Solid Waste Authority:
   a. Pave all parking lots and permanent drives;
   b. Street sweep paved areas on a regular basis; and,
   c. Use a water truck to spray water on unpaved roads and active unpaved areas.

[Rule 62-296.320(4)(c)2., F.A.C.; and, items a., b., and c. proposed by the applicant.]

2. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

[Rule 62-296.320(2), F.A.C.]

Subsection A. This section addresses the following emissions units.

E.U. ID Nos.	Brief Description
-###	Sludge Dryer Train #1
-###	Sludge Dryer Train #2

The BPF will have two 337.5 wtpd sludge drying trains Dryer Train #1 and #2, and related appurtenances. Each dryer train at the BPF will combust landfill gas generated from the nearby landfill in a rotary drum dryer to dry sewage sludge, and then screen the dried sludge into marketable fertilizer pellets. Natural gas will be used as a backup fuel. Each dryer has a rated capacity of 34.2 MMBTU/hr based on landfill gas or 34.1 MMBTU/hr based on natural gas.

Dry low NOx burners and acid addition in the tray/condenser scrubber will be used to control NOx emissions from each dryer's exhaust. A tray/condenser scrubber and a venturi scrubber to control PM emissions from each dryer's exhaust. The BPF will also use a regenerative thermal oxidizer (RTO) on each dryer exhaust to control VOC emissions and odors. Each dryer train has its own stack.

The following specific conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

A.1. Permitted Capacity. The maximum process rate for each dryer train shall be 337.5 wet tons of sludge per day (wtpd, at 20% solids). The maximum process rate for the Biosolids Pelletization Facility (BPF) shall be 675 wet tons of sludge per day (wtpd, at 20% solids). The maximum heat input rates for the dryers are as follows:

E.U. ID No.		Landfill Gas	Natural Gas
-###	Sludge Dryer Train #1	34.2 MMBtu/hour	34.1 MMBtu/hour
-###	Sludge Dryer Train #2	34.2 MMBtu/hour	34.1 MMBtu/hour

[Rules 62-4.160(2) and 62-210.228(PTE), F.A.C. and PSD-FL-108F]

A.2. Methods of Operation - Fuels. The dryers shall be fired primarily by landfill gas with natural gas used as a backup fuel.
[Rules 62-4.160(2) and 62-210.228(PTE), F.A.C. and PSD-FL-108F]

A.3. Hours of Operation. These emission units may operate continuously, i.e., 8,760 hours/year.
[Rules 62-4.160(2) and 62-210.228(PTE), F.A.C. and PSD-FL-108F]

Emission Limitations and Standards

A.4. Emissions from each dryer train stack shall not exceed the specific emission limitations and standards in **Table AP-1 Summary of Air Pollutants** attached to this permit. [BACT Determination and Rule 62-4.070, F.A.C.]

40 CFR 61 Subpart E, NESHAP for Mercury.

A.5. The dryers shall comply with **Appendix 40 CFR 61 Subpart E - NESHAP for Mercury** attached to this permit.

40 CFR 61 Subpart A - NESHAP General Provisions

A.6. The dryers shall comply with **Appendix 40 CFR 61 Subpart A - General Provisions** attached to this permit.

Test Methods and Procedures

A.7. These emissions units are also subject to the conditions contained in **Subsection C. Common Conditions.**

Subsection B. This section addresses the following emissions units.

E.U. ID Nos.	Brief Description
-###	Recycle Material Bin & Pellet Storage Silo for Sludge Dryer Train #1
-###	Cooling Tower Train #1
-###	Recycle Material Bin & Pellet Storage Silo for Sludge Dryer Train #2
-###	Cooling Tower Train #2
-###	Emergency Generator

Each biosolids dryer train will have the following additional air emissions sources: exhaust vent on one recycle material bin exhaust from one fertilizer pellet storage silo, and one cooling tower. All of these are potential sources of PM emissions. Each of two recycle material bins will be ventilated through a fugitive dust control baghouse and then through a building odor scrubber. Dusty air resulting from silo filling operations will be ducted to the recycle bin baghouses, mentioned above. Emissions from the cooling towers and emergency generator are uncontrolled.

The following specific conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

B.1. Permitted Capacity.
These emissions units are associated with the Biosolids Pelletization Facility (BPF). The maximum process/operation rates for the BPF associated emissions units are based on the 675 wet tons of sludge per day (wtpd, at 20% solids).
[Rules 62-4.160(2) and 62-210.228(PTE), F.A.C. and PSD-FL-108F]

B.2. Hours of Operation. These emission units may operate continuously, i.e., 8,760 hours/year.
[Rules 62-4.160(2) and 62-210.228(PTE), F.A.C. and PSD-FL-108F]

Emission Limitations and Standards

B.3. Emissions from these emissions units shall not exceed the specific emission limitations and standards in **Table AP-1 Summary of Air Pollutants** attached to this permit. [BACT Determination and Rule 62-4.070, F.A.C.]

Test Methods and Procedures

B.4. These emissions units are also subject to the conditions contained in **Subsection C. Common Conditions.**

B.5. Minor PM Particulate Source Test Methods. The maximum permitted allowable particulate matter emission rate (gr/dscf) from the silos and material recycling bins are stated in **Table AP-1**. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, and because these sources are equipped with a baghouse, the Department pursuant to the

authority granted under Rule 62-297.620(4), F.A.C., hereby establishes a visible emission limitation not to exceed an opacity of 5% in lieu of a particulate stack test. In accordance with Rule 62-297.620(4), minor particulate sources equipped with baghouses with visible emissions that are greater than or equal to 5 percent opacity may result in the permittee being required to perform a stack test in accordance with approved methods to verify compliance with the gr/dscf emission limits. The visible emissions test shall be conducted by a certified observer using Method 9 and the procedures in 40 CFR. 60.11 and Rule 62-297.320, F.A.C.
[Rule 62-297.620(4), F.A.C.]

Subsection C. Common Conditions

This section addresses the following emissions units.

E.U. ID Nos.	Brief Description
-###	Sludge Dryer Train #1
-###	Sludge Dryer Train #2
-###	Recycle Material Bin & Pellet Storage Silo for Sludge Dryer Train #1
-###	Recycle Material Bin & Pellet Storage Silo for Sludge Dryer Train #2

Test Methods and Procedures

C.1. Compliance Testing. Compliance with the emission limitations and standards shall be determined by using the following reference methods as described in 40 CFR 60, Appendix A and 40 CFR 61, Appendix B adopted by reference in Chapter 62-204, F.A.C. The tests shall be conducted within 60 days after achieving the maximum production rate, but not later than 180 days after the initial startup of such facility and at such other times as may be required by the Department or the EPA.
Method 5 Determination of Particulate Matter Emissions from Stationary Sources (I) and (A).
Method 9 Visual Determination of the Opacity of Emissions from Stationary Sources (I) and (A).
Method 7 Determination of Nitrogen Oxides Emissions from Stationary Sources (I) and (A).
Method 10 Determination of Carbon Monoxide Emissions from Stationary Sources (I).
Method 25 Determination of Volatile Organic Compound Emissions from Stationary Sources (I).
Method 101A Determination of Particulate and Gaseous Mercury Emissions from Sewage Sludge Incinerators (I) and (A) or Method 105 Determination of Mercury in Wastewater Treatment Plant Sewage Sludge (I) and (A). Specific Testing and sampling conditions as outlined in 40 CFR 61.53 and 61.54 shall be followed as described.

This facility shall comply with all applicable requirements of Rule 62-297.310, F.A.C. General Compliance Test Requirements and 40 CFR 60.8. Performance Tests
[Chapter 297 F.A.C., Stationary Sources - Emissions Monitoring; and 40 CFR 60 Subpart A, and 40 CFR 61, Subpart A, General Provisions]

C.2. Test Notification. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.
[Rule 62-297.310( )9., F.A.C.]

C.3. Required Stack Sampling Facilities. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in **Appendix SS-1, Stack Sampling Facilities**, attached to this permit.
[Rule 62-297.310(6), F.A.C.]

C.4. Determination of Process Variables.
(a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
(b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value. [Rule 62-297.310(5), F.A.C.]

C.5. Test Reports.
(1) (a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.

(b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.
(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.

15. Data on the types and amounts of any chemical solutions used.

16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.

17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.

18. All measured and calculated data required to be determined by each applicable test procedure for each run.

19. The detailed calculations for one run that relate the collected data to the calculated emission rate.

20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.

21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

G.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.

G.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 or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

G.3 As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and 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 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.

G.4 This permit conveys no title to land or water, does not constitute State recognition or acknowledgment 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.

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

G.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.

G.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 and 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.

G.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.

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.

G.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.

G.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.

G.11 This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, 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.

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

G.13 This permit also constitutes:

(a) Determination of Best Available Control Technology (not applicable to project);

(b) Determination of Prevention of Significant Deterioration (not applicable to project); and

(c) Compliance with New Source Performance Standards (not applicable to project).

G.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 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 or 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:

1. The date, exact place, and time of sampling or measurements;
2. The person responsible for performing the sampling or measurements;
3. The dates analyses were performed;
4. The person responsible for performing the analyses;
5. The analytical techniques or methods used; and
6. The results of such analyses.

G.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.

Appendix 40 CFR 61 Subpart A – NESHAP General Provisions (version dated 05/06/04)

Prohibited Activities.

(a) After the effective date of any standard, no owner or operator shall construct or modify any stationary source subject to that standard without first obtaining written approval from the Administrator in accordance with this subpart, except under an exemption granted by the President under section 112(c)(2) of the Act. Sources, the construction or modification of which commenced after the publication date of the standards proposed to be applicable to the sources, are subject to this prohibition.

(b) After the effective date of any standard, no owner or operator shall operate a new stationary source subject to that standard in violation of the standard, except under an exemption granted by the President under section 112(c)(2) of the Act.

(c) Ninety days after the effective date of any standard, no owner or operator shall operate any existing source subject to that standard in violation of the standard, except under a waiver granted by the Administrator under this part or under an exemption granted by the President under section 112(c)(2) of the Act.

(d) No owner or operator subject to the provisions of this part shall fail to report, revise reports, or report source test results as required under this part.
[40 CFR 61.05]

Notification of Startup.

(a) The owner or operator of each stationary source which has an initial startup after the effective date of a standard shall furnish the Administrator with written notification as follows:

(1) A notification of the anticipated date of initial startup of the source not more than 60 days nor less than 30 days before that date.

(2) A notification of the actual date of initial startup of the source within 15 days after that date.

(b) If any State or local agency requires a notice which contains all the information required in the notification in 40 CFR 61.09(a), sending the Administrator a copy of that notification will satisfy 40 CFR 61.09(a).
[40 CFR 61.09]

Compliance with Standards and Maintenance Requirements.

(a) Compliance with numerical emission limits shall be determined by emission tests established in 40 CFR 61.13 unless otherwise specified in an individual subpart.

(b) Compliance with design, equipment, work practice or operational standards shall be determined as specified in an individual subpart.

(c) The owner or operator of each stationary source shall maintain and operate the source, including associated equipment for air pollution control, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operating and maintenance procedures, and inspection of the source.

(d) (1) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in emissions of a pollutant from a source at least equivalent to the reduction in emissions of that pollutant from that source achieved under any design, equipment, work practice or operational standard, the Administrator will publish in the Federal Register a notice permitting the use of the alternative means for purposes of compliance with the standard. The notice will restrict the permission to the source(s) or category(ies) of sources on which the alternative means will achieve equivalent emission reductions. The notice may condition permission on requirements related to the operation and maintenance of the alternative means.

(2) Any notice under 40 CFR 61.12(d)(1) shall be published only after notice and an opportunity for a hearing.

(3) Any person seeking permission under this subsection shall, unless otherwise specified in the applicable subpart, submit a proposed test plan or the results of testing and monitoring, a description of the procedures followed in testing or monitoring, and a description of pertinent conditions during testing or monitoring.

(e) For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this part, nothing in this part shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test had been performed. [40 CFR 61.12]

Emission Tests and Waiver of Emission Tests.

(a) If required to do emission testing by an applicable subpart and unless a waiver of emission testing is obtained under this section, the owner or operator shall test emissions from the source-

(1) Within 90 days after the effective date, for an existing source or a new source which has an initial startup date before the effective date; or

(2) Within 90 days after initial startup, for a new source which has an initial startup date after the effective date.

(b) The Administrator may require an owner or operator to test emissions from the source at any other time when the action is authorized by section 114 of the Act.

(c) The owner or operator shall notify the Administrator of the emission test at least 30 days before the emission test to allow the Administrator the opportunity to have an observer present during the test.

(d) If required to do emission testing, the owner or operator of each new source and, at the request of the Administrator, the owner or operator of each existing source shall provide emission testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to each source.

(2) Safe sampling platform(s).

(3) Safe access to sampling platform(s).

(4) Utilities for sampling and testing equipment.

(5) Any other facilities that the Administrator needs to safely and properly test a source.

(e) Each emission test shall be conducted under such conditions as the Administrator shall specify based on design and operational characteristics of the source.

(f) Unless otherwise specified in an applicable subpart, samples shall be analyzed and emissions determined within 30 days after each emission test has been completed. The owner or operator shall report the determinations of the emission test to the Administrator by a registered letter sent before the close of business on the 31st day following the completion of the emission test.

(g) The owner or operator shall retain at the source and make available, upon request, for inspection by the Administrator, for a minimum of 2 years, records of emission test results and other data needed to determine emissions.

(h) (1) Emission tests shall be conducted as set forth in this section, the applicable subpart and appendix B unless the Administrator-

(i).Specifies or approves the use of a reference method with minor changes in methodology; or

(ii) Approves the use of an alternative method; or

(iii) Waives the requirement for emission testing because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the source is in compliance with the standard.

(2) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative method, he may require the use of a reference method. If the results of the reference and alternative methods do not agree, the results obtained by the reference method prevail.

(3) The owner or operator may request approval for the use of an alternative method at any time, except-

(i) For an existing source or a new source that had an initial startup before the effective date, any request for use of an alternative method during the initial emission test shall be submitted to the Administrator within 30 days after the effective date, or with the request for a waiver of compliance if one is submitted under 40 CFR 60.10(b); or

(ii) For a new source that has an initial startup after the effective date, any request for use of an alternative method during the initial emission test shall be submitted to the Administrator no later than with the notification of anticipated startup required under 40 CFR 60.09.

(i) (1) Emission tests may be waived upon written application to the Administrator if, in the Administrator's judgment, the source is meeting the standard, or the source is being operated under a waiver or compliance, or the owner or operator has requested a waiver of compliance and the Administrator is still considering that request.

(2) If application for waiver of the emission test is made, the application shall accompany the information required by 40 CFR 61.10 or the notification of startup required by 40 CFR 61.09, whichever is applicable. A possible format is contained in appendix A to this part.

(3) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later cancelling the waiver. The cancellation will be made only after notice is given to the owner or operator of the source.

[40 CFR 61.13]

Monitoring Requirements.

(a) Unless otherwise specified, this section applies to each monitoring system required under each subpart which requires monitoring.

(b) Each owner or operator shall maintain and operate each monitoring system as specified in the applicable subpart and in a manner consistent with good air pollution control practice for minimizing emissions. Any unavoidable breakdown or malfunction of the monitoring system should be repaired or adjusted as soon as practicable after its occurrence. The Administrator's determination of whether acceptable operating and maintenance procedures are being used will be based on information which may include, but not be limited to, review of operating and maintenance procedures, manufacturer recommendations and specifications, and inspection of the monitoring system.

(c) When required by the applicable subpart, and at any other time the Administrator may require, the owner or operator of a source being monitored shall conduct a performance evaluation of the monitoring system and furnish the Administrator with a copy of a written report of the results within 60 days of the evaluation. Such a performance evaluation shall be conducted according to the applicable specifications and procedures described in the applicable subpart. The owner or operator of the source shall furnish the Administrator with written notification of the date of the performance evaluation at least 30 days before the evaluation is to begin.

(d) When the effluents from a single source, or from two or more sources subject to the same emission standards, are combined before being released to the atmosphere, the owner or operator shall install a monitoring system on each effluent or on the

combined effluent. If two or more sources are not subject to the same emission standards, the owner or operator shall install a separate monitoring system on each effluent, unless otherwise specified. If the applicable standard is a mass emission standard and the effluent from one source is released to the atmosphere through more than one point, the owner or operator shall install a monitoring system at each emission point unless the installation of fewer systems is approved by the Administrator.

(e) The owner or operator of each monitoring system shall reduce the monitoring data as specified in each applicable subpart. Monitoring data recorded during periods of unavoidable monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in any data average.

(f) The owner or operator shall maintain records of monitoring data, monitoring system calibration checks, and the occurrence and duration of any period during which the monitoring system is malfunctioning or inoperative. These records shall be maintained at the source for a minimum of 2 years and made available, upon request, for inspection by the Administrator.

(g) (1) Monitoring shall be conducted as set forth in this section and the applicable subpart unless the Administrator-

(i) Specifies or approves the use of the specified monitoring requirements and procedures with minor changes in methodology;
or

(ii) Approves the use of alternatives to any monitoring requirements or procedures.

(2) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring method, the Administrator may require the monitoring Requirements and procedures specified in this part.
[40 CFR 61.14]

Availability of Information.
The availability to the public of information provided to, or otherwise obtained by, the Administrator under this part shall be governed by part 2 of this chapter.
[40 CFR 61.16]

State Authority.

(a) This part shall not be construed to preclude any State or political subdivision thereof from --

(1) Adopting and enforcing any emission limiting regulation applicable to a stationary source, provided that such emission limiting regulation is not less stringent than the standards prescribed under this part; or

(2) Requiring the owner or operator of a stationary source to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of the source.
[40 CFR 61.17]

Circumvention.
No owner or operator shall build, erect, install, or use any article machine, equipment, process, or method, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous dilutants to achieve compliance with a visible emissions standard, and the piecemeal carrying out of an operation to avoid coverage by a standard that applies only to operations larger than a specified size.
[40 CFR 61.19]

Appendix 40 CFR 61 Subpart E - NESHAP for Mercury
(version dated 03/20/03)

Emission Standard for Mercury.

(b) Emissions to the atmosphere from sludge drying plants that process wastewater treatment plant sludges shall not exceed 3.2 kg (7.1 lb) of mercury per 24-hour period. [40 CFR 61.52]

Stack Sampling.

(d) Sludge incineration and drying plants (1)Unless a waiver of emission testing is obtained under 40 CFR 61.13, each owner or operator of a source subject to the standard in 61.52(b) shall test emissions from that source. Such tests shall be conducted in accordance with the procedures set forth either in 51.53(d) or in 61.54.

(2) Method 101A in appendix B to this part shall be used to test emissions as follows:

(i) The test shall be performed within 90 days of the effective date of these regulations in the case of an existing source or a new source which has an initial startup date preceding the effective date.

(ii) The test shall be performed within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(3)The Administrator/Department shall be notified in writing at least 30 days prior to an emission test, so that he may at his option observe the test.

(4)Samples shall be taken over such a period or periods as are necessary to determine accurately the maximum emissions which will occur in a 24-hour period. No changes shall be made in the operation which would potentially increase emissions above the level determined by the most recent stack test, until the new emission level has been estimated by calculation and the results reported to the Administrator.

(5)All samples shall be analyzed and mercury emissions shall be determined within 30 days after the stack test. Each determination shall be reported to the Administrator by a registered letter dispatched within 15 calendar days following the date such determination
is completed.

(6)Records of emission test results and other data needed to determine total emissions shall be retained at the source and shall be made available, for inspection by the Administrator, for a minimum of 2 years.
[40 CFR 61.53]

Sludge Sampling.

(a)As an alternative means for demonstrating compliance with 40 CFR 61.52(b), an owner or operator may use Method 105 of 40 CFR 61 Appendix B and the procedures specified in this section.

(1)A sludge test shall be conducted within 90 days of the effective date of these regulations in the case of an existing source or a new source which has an initial startup date preceding the effective date, or;

(2)A sludge test shall be conducted within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(b)The Administrator shall be notified at least 30 days prior to a sludge sampling test, so that he may at his option observe the test.

(c) Sludge shall be sampled according to paragraph (c)(1), sludge charging rate for the plant shall be determined according to paragraph (c)(2), and the sludge analysis shall be performed according to paragraph (c)(3) of this section.

(1) The sludge shall be sampled according to Method 105-Determination of Mercury in Wastewater Treatment Plant Sewage Sludges: A total of three composite samples shall be obtained within an operating period of 24 hours. When the 24-hour operating period is not continuous, the total sampling period shall not exceed 72 hours after the first grab sample is obtained. Samples shall not be exposed to any condition that may result in mercury contamination or loss.

(2)The maximum 24-hour period sludge incineration or drying rate shall be determined by use of a flow rate measurement device that can measure the mass rate of sludge charged to the incinerator or dryer with an accuracy of ±5 percent over its operating range. Other methods of measuring sludge mass charging rates may be used if they have received prior approval by the Administrator.

(3) The sampling, handling, preparation, and analysis of sludge samples shall be accomplished according to Method 105 in 40 CFR 61 Appendix B of this part.

(d) The mercury emissions shall be determined by use of the following equation:

$$EHg = MQ\ Fsm(avg)/1000$$

where:
EHg=Mercury emissions, g/day.
M=Mercury concentration of sludge on a dry solids basis, μg/g.
Q=Sludge changing rate, kg/day.
Fsm=Weight fraction of solids in the collected sludge after mixing.
1000=Conversion factor, kg μg/g^2.

(e) No changes in the operation of a plant shall be made after a sludge test has been conducted which would potentially increase emissions above the level determined by the most recent sludge test, until the new emission level has been estimated by calculation and the results reported to the Administrator.

(f) All sludge samples shall be analyzed for mercury content within 30 days after the sludge sample is collected. Each determination shall be reported to the Administrator by a registered letter dispatched within 15 calendar days following the date such determination is completed.

(g) Records of sludge sampling, charging rate determination and other data needed to determine mercury content of wastewater treatment plant sludges shall be retained at the source and made available, for inspection by the Administrator, for a minimum of 2 years.
[40 CFR 61.54]

Monitoring of Emissions and Operations.
(a) Wastewater treatment plant sludge incineration and drying plants. All the sources for which mercury emissions exceed 1.6 kg (3.5 lb) per 24-hour period, demonstrated either by stack sampling according to Sec. 61.53 or sludge sampling according to Sec. 61.54, shall monitor mercury emissions at intervals of at least once per year by use of Method 105 of Appendix B or the procedures specified in Sec. 61.53(d) (2) and (4). The results of monitoring shall be reported and retained according to Sec. 61.53(d)(5) and (6) or Sec. 61.54(f) and (g).

(c) As an alternative to the monitoring, recordkeeping, and reporting requirements in paragraphs (b)(2) through (8) of this section, an owner or operator may develop and submit for the Administrator's review and approval a plant-specific monitoring plan. To be approved, such a plan must ensure not only compliance with the emission limits of § 61.52(a) but also proper operation and maintenance of emissions control systems. Any site-specific monitoring plan submitted must, at a minimum, include the following:

(1) Identification of the critical parameter or parameters for the hydrogen stream and for the end-box ventilation stream that are to be monitored and an explanation of why the critical parameter(s) selected is the best indicator of proper control system performance and of mercury emission rates.

(2) Identification of the maximum or minimum value of each parameter (e.g., degrees temperature, concentration of mercury) that is not to be exceeded. The level(s) is to be directly correlated to the results of a performance test, conducted no more than 180 days prior to submittal of the plan, when the facility was in compliance with the emission limits of § 61.52(a).

(3) Designation of the frequency for recording the parameter measurements, with justification if the frequency is less than hourly. A longer recording frequency must be justified on the basis of the amount of time that could elapse during periods of process or control system upsets before the emission limits would be exceeded, and consideration is to be given to the time that would be necessary to repair the failure.

(4) Designation of the immediate actions to be taken in the event of an excursion beyond the value of the parameter established in paragraph (c)(2) of this section.

(5) Provisions for reporting, semiannually, parameter excursions and the corrective actions taken, and provisions for reporting within 10 days any significant excursion.

(6) Identification of the accuracy of the monitoring device(s) or of the readings obtained.

(7) Recordkeeping requirements for certifications and calibrations.
[40 CFR 61.55]

Delegation of Authority of NESHAP 40 CFR 61 Subpart E.
(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: Sections 61.53(c)(4) and 61.55(d). The authorities not delegated to States listed are in addition to the authorities in the General Provisions, Subpart A of 40 CFR Part 61, that will not be delegated to States: Sections 61.04(b), 61.12(d)(1), and 61.13(h)(1)(ii).
[40 CFR 61.56]

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

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