



## Memorandum

## Florida Department of Environmental Protection

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TO: Trina Vielhauer

THRU: Al Linero 

FROM: Michael P. Halpin 

DATE: January 10, 2003

SUBJECT: Palm Beach Power Corporation New PSD project and  
U.S. Sugar Bryant Reduction of Maximum Sulfur Content of Residual Fuel Oil  
DEP Files No. PSD-FL-329 (0990331-09-AC) and PSD-FL-009 (0990061-07-AC)

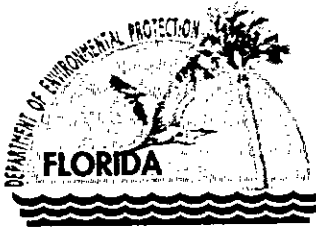
Attached is the public notice package for two permits, as identified above. The Palm Beach Power Corporation (or PBPC, formerly Osceola Cogeneration) has requested permission to construct and start-up two cogeneration boilers plus an auxiliary boiler. The applicant utilizes PSD netting in order to relieve itself from a PSD review of certain pollutants. The netting is authorized based upon the applicant's intention to shutdown several existing sugar mills at the facility. Generally speaking, the major issue associated with this project is the applicability of a new-source MACT analysis (which would be case-by-case) versus considering the project as an existing source for purposes of MACT applicability. As the permit engineer, I believe that in order to be consistent between the applicability of the NSPS, BACT and MACT there must be one single date, for which FDEP considers as the commencement of construction. Given the prior permitting history of these units, and the surrender of the prior PSD permits, I have elected to consider the application as new. Through conversations with Jim Little and Lee Page of EPA's Region IV, I understand that EPA supports this rationale.

The modification to U.S. Sugar Bryant is a direct result of PBPC's desire to have a window of time, during which the new units can be run (for test purposes) and the existing units may also operate, i.e. a period of "simultaneous operation". It is during this time that modeling has uncovered potential violations of the SO<sub>2</sub> standards. In order to eliminate this issue, nearby U.S. Sugar Bryant has agreed to reduce their maximum sulfur content from 2.5% sulfur to 0.7% by weight. The modeling indeed indicates that potential violations disappear under this scenario. Accordingly, we have elected to issue the permits for these facilities coincidentally, and refer to the issue in the Public Notice for each project.

I recommend your approval of each of the attached Intent to Issue.

MPH

Attachments



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

January 15, 2003

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Carlos Rionda  
General Manager  
Palm Beach Power Corporation  
P.O. Box 606  
Pahokee, FL 33476

Re: Osceola Cogeneration Plant  
File No. 0990331-009-AC (PSD-FL-329)

Dear Mr. Rionda:

Enclosed is one copy of the Draft Air Construction Permit relative to Palm Beach Power's request to be permitted for the start-up of two new cogeneration boilers, a package boiler, a 50,000 gallon No. 2 fuel oil storage tank, feed and ash handling systems, steam turbines and condensers, electrical power generators, cooling towers, and stacks. The facility is located at US 98 and Hatton Highway, Pahokee, Palm Beach County.

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

Please submit any written comments you wish to have considered concerning the Department's proposed action to A. A. Linero, P.E., Administrator, New Source Review Section at the above letterhead address. If you have any other questions, please contact Michael P. Halpin, P.E. at 850/921-9519.

Sincerely,

Trina L. Vielhauer, Chief,  
Bureau of Air Regulation

TV/mph

Enclosures

"More Protection, Less Process"

Printed on recycled paper.

In the Matter of an  
Application for Permit by:

Carlos Rionda, General Manager  
Palm Beach Power Corporation  
PO Box 606  
Pahokee, Florida 33476

DEP File No. PSD-FL-329 (0990331-009-AC)

### **INTENT TO ISSUE AIR CONSTRUCTION PERMIT**

The Department of Environmental Protection (Department) gives notice of its intent to issue an Air Construction Permit (copy of Draft permit attached) for the proposed project, detailed in the application specified above and for the reasons stated below.

The applicant, Palm Beach Power Corporation, applied on April 22, 2002, to the Department for an Air Construction Permit for its Osceola Cogeneration Facility, located at US 98 and Hatton Highway, Pahokee, Palm Beach County. The request is to be permitted for the start-up of two cogeneration boilers, a package boiler, a 50,000 gallon No. 2 fuel oil storage tank, feed and ash handling systems, steam turbines and condensers, electrical power generators, cooling towers, and stacks.

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, 62-212 and 40 CFR 52.21. The above actions are not exempt from permitting procedures. The Department has determined that an Air Construction Permit is required in order to construct and start up the subject emission units.

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

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

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

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

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

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

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

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

Mediation is not available in this proceeding.

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

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The

name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

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

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

Executed in Tallahassee, Florida.



Trina Vielhauer, Chief  
Bureau of Air Regulation

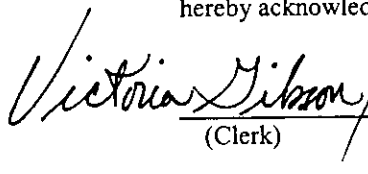
#### CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Intent to Issue Air Construction Permit (including the Public Notice of Intent to Issue Air Construction Permit, Technical Evaluation, Preliminary Determination and Draft BACT Determination and the Draft Air Construction Permit) was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 1/16/03 to the person(s) listed:

Carlos Rionda, Palm Beach Power \*  
James Meriwether, Palm Beach Power  
David A. Buff, P.E. Golder Associates  
James Stormer, Palm Beach County Health Department  
Ron Blackburn, DEP-SDO  
Mr. John Bunyak, NPS  
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.

 / January 16, 2003  
(Clerk) (Date)

**PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT**

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. PSD-FL-329 (0990331-009-AC)

Palm Beach Power Corporation  
Osceola Cogeneration Facility  
Palm Beach County

The Department of Environmental Protection (Department) gives notice of its intent to issue an Air Construction Permit to Palm Beach Power Corporation, located at US 98 and Hatton Highway, Pahokee, Palm Beach County. The permit is to allow for the construction and start-up of two new cogeneration boilers, a package boiler, a 50,000 gallon No. 2 fuel oil storage tank, feed and ash handling systems, steam turbines and condensers, electrical power generators, cooling towers, and stacks. This is an existing facility, with five active sugar mill boilers. The five active sugar mill boilers will be shut down as a part of this permitting action. The Department made determinations of Best Available Control Technology (BACT) and Maximum Available Control Technology (MACT). The applicant's mailing address is: Palm Beach Power Corporation, P.O. Box 606, Pahokee FL 33476.

This is a 74 (gross) megawatt (MW), electrical power, (1-hour average), cogeneration facility (bagasse and wood material as the primary fuel and No. 2 oil and natural gas as supplementary fuels) located adjacent to the Osceola Farms' sugar mill that is east of Pahokee in Palm Beach County, Florida. The cogeneration facility is to consist of two spreader-stoker steam boilers with a design heat input for each boiler of 760 million British thermal units per hour (MMBtu/hr) on bagasse and wood material or 600 MMBtu/hr on No. 2 fuel oil or natural gas. Particulate matter, nitrogen oxides, and mercury emissions from each boiler will be controlled by electrostatic precipitators in addition to multi-tube collectors, a selective non-catalytic reduction systems, and an activated carbon injection system.

The permit will require the shutdown of the five existing sugar mill boilers located at the adjacent Osceola Farms facility within 18 months of issuance of a final permit. Additionally, as part of this permitting action, U.S. Sugar Bryant located in Pahokee, Palm Beach County will be required to limit the sulfur content of the oil it fires to 0.7% by weight. The Department has determined that the annual changes of PSD pollutants, which will occur as a net result of the addition of this equipment, combined with the reductions from Osceola Farms, are as follows:

PSD POLLUTANT	SIGNIFICANT EMISSION CHANGES
Sulfur Dioxide (SO <sub>2</sub> )	293 Tons Per Year
Nitrogen oxides (NO <sub>2</sub> )	807 Tons Per Year
Particulate Matter (PM <sub>10</sub> )	-34 Tons Per Year
Sulfuric acid mist (SAM)	16.4 Tons Per Year
Ozone (Volatile Organic Compounds - VOC)	-82 Tons Per Year
Carbon monoxide (CO)	-5123 Tons Per Year
Lead (Pb)	0.59 Tons Per Year
Fluorides (F)	2.99 Tons Per Year
Mercury (Hg)	0.024 Tons Per Year

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

An air quality impact analysis was conducted. Emissions from the facility will not significantly contribute to or cause a violation of any state or federal ambient air quality standards. Upon completion of the project, the maximum predicted SO<sub>2</sub> and NO<sub>2</sub> PSD Class II increments in the vicinity of the project consumed by all sources in the area, including this project, will be as follows:

Averaging Time	Allowable Increment (µg/m <sup>3</sup> )	Increment Consumed (µg/m <sup>3</sup> )	Percent Consumed
<b>SO<sub>2</sub></b>			
3-hour	512	300	59
24-hour	91	71	78
Annual	20	9	45
<b>NO<sub>2</sub></b>			
Annual	25	23	92

PSD Class I significant impact levels are exceeded for the SO<sub>2</sub> 3 and 24-hour averaging times in the PSD Class I Everglades National Park located 119 km to the south; therefore a multiple source Class I PSD increment analysis for SO<sub>2</sub> was conducted. Based on the required analyses, the Department has reasonable assurance that the proposed project will not cause or significantly contribute to a violation of any or PSD increment in the Class I area.

Averaging Time	Allowable Increment (µg/m <sup>3</sup> )	Increment Consumed (µg/m <sup>3</sup> )	Percent Consumed
<b>SO<sub>2</sub></b>			
3-hour	25	19	76
24-hour	5	4	80

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

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

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

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

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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:

Florida Department of  
Environmental Protection  
Bureau of Air Regulation  
111 S. Magnolia Drive, Suite 4  
Tallahassee, Florida, 32301  
Telephone: (850) 488-1344

Florida Department of  
Environmental Protection  
South District  
2296 Victoria Avenue, Suite 364  
Fort Myers, Florida 33902  
Telephone: (239) 332-6975

Palm Beach County Health  
Department  
P.O. Box 29  
901 Evernia Street  
West Palm Beach, Florida 33402  
Telephone: (561) 355-3136

The complete project file includes the application, Draft permit, and the information submitted by the Responsible Official, exclusive of confidential records under Section 403.111, F.S. Interested persons may review specific details of this project at <http://www.dep.state.fl.us/air/permitting/construct.htm> or contact the Administrator, New Source Review Section, at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information.

NOTICE TO BE PUBLISHED IN THE NEWSPAPER



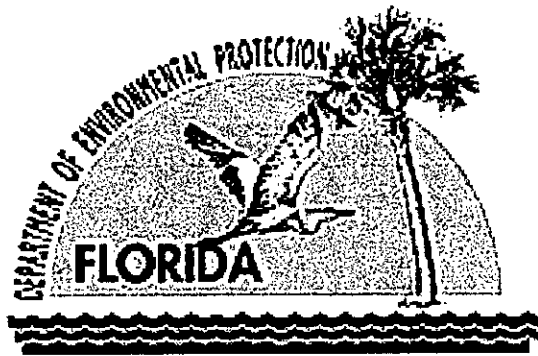
**TECHNICAL EVALUATION,  
PRELIMINARY DETERMINATION AND  
DRAFT BACT DETERMINATION**

**Palm Beach Power Corporation**

**A Cogeneration Facility**

**Palm Beach County**

**PSD-FL-329  
0990331-09-AC**



**Department of Environmental Protection  
Division of Air Resources Management  
Bureau of Air Regulation  
New Source Review Section**

**January 10, 2003**

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## 1. GENERAL INFORMATION

### 1.1 APPLICANT NAME AND ADDRESS

Palm Beach Power Corporation  
Osceola Cogeneration Facility  
P.O. Box 606  
Pahokee, Florida 33476

Authorized Representative: Carlos Rionda, General Manager

### 1.2 REVIEWING AND PROCESS SCHEDULE

April 18, 2002	Application and Fee Submitted
May 14, 2002	Request For Additional Information
September 5, 2002	Second Request For Additional Information
November 21, 2002	Application Complete

## 2. FACILITY INFORMATION

### 2.1 FACILITY LOCATION

The facility is located at US 98 and Hatton Hwy, Pahokee, Palm Beach County. The UTM coordinates are Zone 17; 544.2 km E; 2968.0 km N. This site is approximately 119 kilometers from the Everglades National Park.

### 2.2 STANDARD INDUSTRIAL CLASSIFICATION CODES (SIC)

Industry Group No.	49	Electric, Gas and Sanitary Services
Industry No.	4911	Electric Services

### 2.3 FACILITY CATEGORY

This facility will consist of two cogeneration boilers, one package boiler, with associated facilities and operations necessary to generate steam for the Osceola Farms sugar mill, as well as generate electricity for sale to the grid. An approximate mixture of 50/50 bagasse and wood is anticipated to be the primary fuel for the cogeneration boilers. Number 2 fuel oil (0.05% sulfur) is to be used as a supplemental fuel in the cogeneration boilers, along with natural gas, which is proposed as the primary fuel for the package boiler. Due to prior permit issuances, which have since been surrendered, the applicant has requested that the Department consider that commencement of construction to have occurred between December 2, 1989 and September 20, 1994. However, as previously indicated by the Department in writing "...the Department will give no consideration to any existing equipment at the cogeneration plant in future permitting decisions." Accordingly, this project will be treated as new construction.

This facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO) or volatile organic compounds (VOC) exceeds 100 tons per year (TPY). This facility is within an industry included in the list of the 28 Major Facility Categories per Table 62-212.400-1, F.A.C. Because emissions are greater than 100 TPY for at least one criteria pollutant, the facility is also a Major Facility with respect to Rule 62-212.400, Prevention of Significant Deterioration (PSD). This facility is a major source of hazardous air pollutants (HAPs).

FIGURE 1

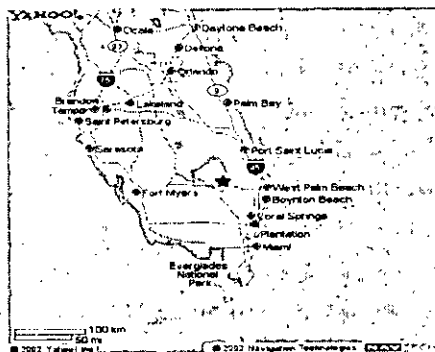
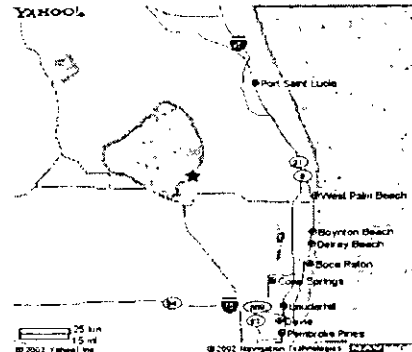


FIGURE 2



Palm Beach Power Corporation  
Osceola Cogeneration Facility

DEP File No. 0990331-009-AC

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## 3. PROJECT DESCRIPTION

This project addresses the following new emissions units at the new facility ARMS ID 0990331:

Emissions Unit No.	Emissions Unit Description
001	Cogeneration Boiler No. 1 rated 760 MMBtu/hr fired by bagasse, wood, No. 2 oil and natural gas
002	Cogeneration Boiler No. 2 rated 760 MMBtu/hr fired by bagasse, wood, No. 2 oil and natural gas
003	Package Boiler rated 211 MMBtu/hr fired by No. 2 oil and natural gas
004	Fuel/Ash Handling Systems

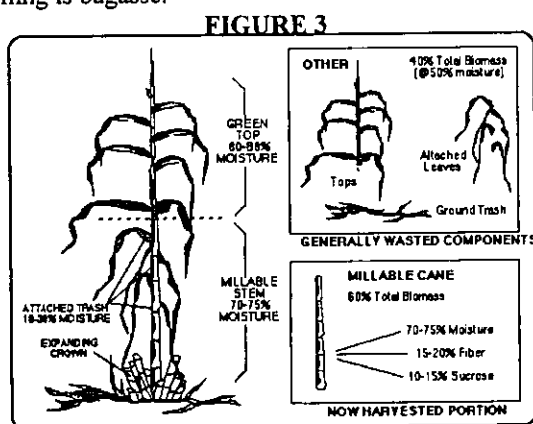
The applicant proposes to construct a cogeneration facility to be situated adjacent to the Osceola Farms sugar mill. This facility is located east of Pahokee, in Palm Beach County as indicated in Figures 1 and 2 above. After a period of start-up testing for the cogeneration facility, the existing sugar mill boilers will be shutdown providing contemporaneous emissions decreases under the PSD New Source Review (NSR) program. The decreases will come from AIRS ID 0990019, Emission Units 2, 3, 4, 5 and 6. The facilities will ultimately be combined into a single major Title V Source in accordance with Rule 62-210.200(126), F.A.C. based on their location and common control.

Emissions Unit No.	Affected Emissions Unit Description
002	Mill Boiler No. 2
003	Mill Boiler No. 3
004	Mill Boiler No. 4
005	Mill Boiler No. 5
006	Mill Boiler No. 6

The applicant has requested a period of time for simultaneous operation of the new cogeneration facility and the existing sugar mills, in order to conduct start-up testing and debugging operations. The Department will allow 18 consecutive calendar months for this testing and debugging, without extension. This is described in more detail herein (Section 8). A general review of bagasse combustion, the Potential To Emit (PTE) and a netting analysis follow.

### 3.1 SUGAR CANE / BAGASSE DISCUSSION

Sugar cane is a large grass with a bamboo-like stalk that grows 8 to 15 feet tall. Only the stalk contains sufficient sucrose for processing into sugar. All other parts of the sugar cane (i.e., leaves, top growth, and roots) are termed "trash". The objective of harvesting is to deliver the sugar cane to the mill with a minimum of trash or other extraneous material. The cane is normally burned in the field to remove a major portion of the trash and to control insects and rodents. The three most common methods of harvesting are hand cutting, machine cutting, and mechanical raking. The cane that is delivered to a particular sugar mill will vary in trash and dirt content depending on the harvesting method and weather conditions. Inside the mill, cane preparation for extraction usually involves washing the cane to remove trash and dirt, chopping, and then crushing. Juice is extracted in the milling portion of the plant by passing the chopped and crushed cane through a series of grooved rolls. The cane remaining after milling is bagasse.



## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Bagasse is the matted cellulose fiber residue from sugar cane that has been processed in a sugar mill. Previously, bagasse was burned as a means of solid waste disposal. However, as the cost of fuel oil, natural gas, and electricity has increased, bagasse has come to be regarded as a fuel rather than refuse. Bagasse is a fuel of varying composition, consistency, and heating value. These characteristics depend on the climate, type of soil upon which the cane is grown, variety of cane, harvesting method, amount of cane washing, and the efficiency of the milling plant. In general, bagasse has a heating value between 3,000 and 4,000 British thermal units per pound (Btu/lb) on a wet, as-fired basis. Most bagasse has a moisture content between 45 and 55 percent by weight. The U. S. sugar cane industry is located in the tropical and subtropical regions of Florida, Texas, Louisiana, Hawaii, and Puerto Rico. Except for Hawaii, where sugar cane production takes place year round, sugar mills operate seasonally from 2 to 5 months per year.

FIGURE 5



FIGURE 6



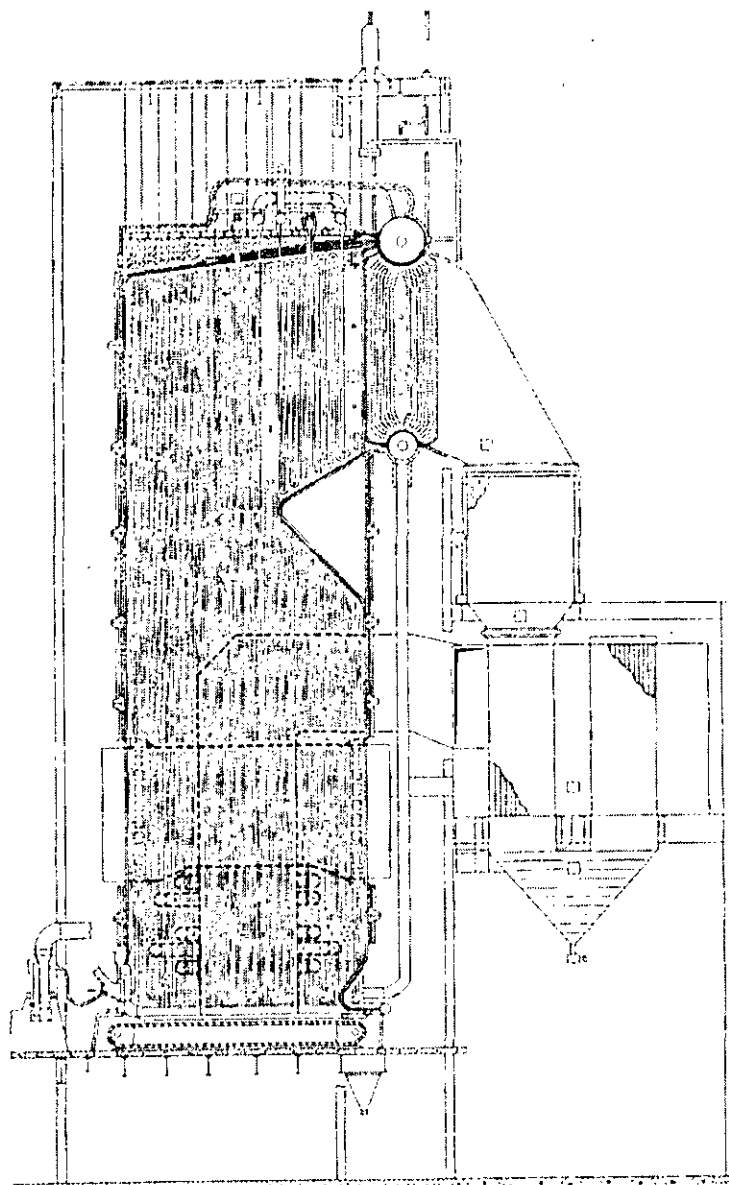
### 3.2 GENERAL FIRING PRACTICES

Horseshoe boilers and spreader stoker boilers are typically used to burn bagasse. In horseshoe boilers (most common among older plants), bagasse is gravity-fed through chutes and piles onto a refractory hearth. Primary and overfire combustion air flows through ports in the furnace walls; burning begins on the surface pile. Many of these units have dumping hearths that permit ash removal while the unit is operating. In more recently built sugar mills, bagasse is burned in spreader stoker boilers. Bagasse fed to these boilers enters the furnace through a fuel chute and is spread pneumatically or mechanically across the furnace, where part of the fuel burns while in suspension. Simultaneously, large pieces of fuel are spread in a thin, even bed on a stationary or moving grate. The flame over the grate radiates heat back to the fuel to aid combustion. The combustion area of the furnace is lined with heat exchange tubes known as waterwall tubes.

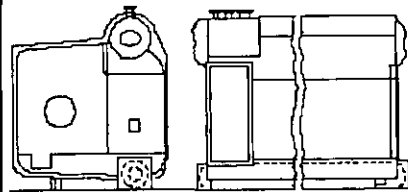
PBPC proposes to use Combustion Engineering (CE) VU-40 boilers for the combustion of the bagasse and wood in the cogeneration boilers. These steam generators are field-erected, top-supported, single gas-pass, thermal circulation, two-drum boilers. The VU-40 features make it particularly suitable for the range of steam and fuel conditions of both large industrial and small-central station installations. Boiler applications cover steam capacities from 100,000 to 1,000,000 lb/hr, design pressures from 200 to 1800 psig, and design steam temperatures from saturated to 1005°F. Virtually any solid, liquid or gaseous fuel can be fired. The VU-40 is produced in sizes and types for nearly any capacity, pressure, fuel, space condition or method of firing encountered in municipal and industrial power and steam plants. It can be arranged for tangential, horizontal, or stoker firing of single and multiple fuels. Figure 7 illustrates a 550,000 lb/hr VU-40 boiler installed in a paper mill. The boiler is capable of firing coal in pulverized form, bark on a grate and sawdust through its tilting tangential firing system. Nozzle tilts supplemented by an interstage spray desuperheater make it possible to achieve design steam temperature of 950°F with any combination of fuels. Figure 7 (bottom) also depicts information typical of the package boiler.

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

FIGURE 7  
VU-40 COGENERATION BOILER CROSS-SECTION



PACKAGE BOILER CHARACTERISTICS

	FM 120-97	155,000	29' 3 $\frac{1}{8}$ "	12' 5 $\frac{1}{2}$ "	16' 10 $\frac{1}{2}$ "	54" Steam Drum
	112 to 124	240,000	33' 7 $\frac{1}{8}$ " to 37' 33 $\frac{1}{8}$ "			24" Lower Drum
Scale 1' = $\frac{1}{16}$ "	Boilers	Capacity Range* (lb/hr)	Length	Width	Height	Drum Size

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

### 3.3 POTENTIAL TO EMIT

According to the applicant, the following represents the maximum Potential To Emit (PTE) for the new facility.

POLLUTANT	EU-001	EU-002	EU-003	EU-004	TPY TOTAL
PM	99.87	99.87	28.31	7.77	236
PM <sub>10</sub>	99.87	99.87	28.31	2.53	231
SO <sub>2</sub>	199.74	199.74	51.07		451
NO <sub>x</sub>	499.35	499.35	106.17		1105
CO	1165.15	1165.15	97.32		2428
VOC	199.74	199.74	27.73		427
Hg	0.018	0.018	0.003		0.039
Fl	2.33	2.33	NA		4.66
Pb	0.50	0.50	0.01		1.01
SAM	12.234	12.234	2.27		26.74

Since the applicant intends to utilize netting as a means of avoiding potential PSD reviews, past actual emissions from the pertinent emission units at AIRS ID 0990019 are reviewed. These actual emissions are listed below as retrieved from FDEP's ARMS database for the years 2000 and 2001, except as shown.

POLLUTANT	EU-002	EU-003	EU-004	EU-005	EU-006	TPY TOTAL
PM	59	53	83	62	44	301
PM <sub>10</sub>	50	45	71	62	37	265
SO <sub>2</sub>	29	28	46	31	24	158
NO <sub>x</sub>	71	56	70	82	19	298
CO	1408	1518	1451	1439	1735	7551
VOC	152	57	118	90	92	509
Hg						0.015 <sup>1</sup>
Fl						0.81 <sup>1</sup>
Pb	0.07	0.01	0.01	0.07	0.09	0.25
SAM						10.33 <sup>1</sup>

<sup>1</sup> Provided by applicant for calendar years 2000 and 2001.

### 3.4 NETTING ANALYSIS

In order to determine whether BACT should apply and to which pollutants, a netting analysis follows. For those pollutants where decreases are shown (or increases which are less than the de-minimis thresholds), BACT will not apply. Rather, emission limits will be established based upon the application of any applicable NSPS and sound engineering standards. For all other pollutants, a BACT analysis will be conducted.

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

POLLUTANT	PBPC PTE (TPY)	PAST ACTUAL (TPY)	NET CHANGE (TPY)	PSD SER (TPY)	PSD / BACT APPLIES
PM	236	301	-65	25	NO
PM <sub>10</sub>	231	265	-34	15	NO
SO <sub>2</sub>	451	158	293	40	YES
NO <sub>x</sub>	1105	298	807	40	YES
CO	2428	7551	-5123	100	NO
VOC	427	509	-82	40	NO
Hg	0.039	0.015	0.024	0.1	NO
Fl	4.66	0.81	3.85	3	YES
Pb	1.01	0.25	0.76	0.6	YES
SAM	26.74	10.33	16.41	7	YES

Based upon the above analysis, this project will result in significant emissions increases of sulfur dioxide, nitrogen oxides, fluorides, lead and sulfuric acid mist. Accordingly, a BACT analysis is provided in Section 6.

## 4. EMISSIONS UNIT DESCRIPTIONS

The applicant offers the following descriptions of the emissions units. The cogeneration boilers are identified as Boiler 1 (EU-001) and Boiler 2 (EU-002). A Package Boiler (assigned by FDEP as EU-003) will also be installed. Each cogeneration boiler is a spreader-stoker unit. Bagasse and wood enter through the fuel chute and are spread across the furnace. Small particles of these fuels burn in suspension above the grate. Larger materials are spread in a thin, even bed along the moving grate. Combustion occurs in three stages within a single chamber: moisture evaporation, distillation and burning of volatile matter, and burning of fixed carbon. Natural gas and distillate oil may be fired for startup or as supplemental fuel to maintain constant steam production when the bagasse/wood moisture content is excessive or the fuel feed is interrupted. The applicant has requested that for multiple reasons, the Department consider that commencement of construction to have occurred between December 2, 1989 and September 20, 1994. However, as previously indicated in Section 2.3 above "...the Department will give no consideration to any existing equipment at the cogeneration plant in future permitting decisions."

**Capacity:** Each cogeneration boiler has a design heat input rate of 760 MMBtu per hour from bagasse/wood fuel, 600 MMBtu per hour from distillate oil, and 600 MMBtu per hour from natural gas. Each boiler is designed to produce 506,000 pounds per hour (24-hour average) of high-pressure steam at 1540 psig and 955° F. The package boiler will produce up to 150,000 lb/hr of steam with maximum heat inputs of 211/202 MMBtu/hr firing natural gas and oil respectively. The cogeneration plant is to be limited to a total annual heat input rate of  $13.32 \times 10^{12}$  MMBtu per year.

**Allowable Fuels:** The cogeneration boilers will fire bagasse and wood materials as the primary fuels, with natural gas or very low sulfur distillate oil as startup and supplemental fuels. Wood materials are collected from nearby counties and consist of clean construction and demolition wood debris, dry wood, yard trash, land clearing debris, and other clean cellulose and vegetative matter. Bagasse is received from the adjacent sugar mill and consists of the fibrous, vegetative residue remaining from sugarcane after the milling process. The fuel mixture shall not contain hazardous substances, hazardous wastes, biomedical wastes, garbage, or special wastes (except wood, lumber, trees, tree remains, bagasse, cane tops and leaves, and other clean cellulose and vegetative matter). The applicant has requested that each boiler be limited to combusting no more than 30% by weight on a calendar quarter basis of yard waste (yard trash) as defined in 40 CFR 60.51a. The applicant notes that this ensures that the exemptions for co-fired combustors from both Subparts Ea and Cb apply. Subpart Eb (which may apply) provides a similar exemption

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

for co-fired combustors. Fossil fuel firing is to be limited to less than 25% of the total permitted heat input on a calendar quarter basis.

Nitrogen Oxides Controls: Each cogeneration boiler is to be equipped with a Thermal DeNO<sub>x</sub> system that injects urea into the exhaust gas stream to reduce NO<sub>x</sub> emissions via selective non-catalytic reduction (SNCR). The package boiler is fitted with low-NO<sub>x</sub> burners.

Particulate Matter Controls: The primary particulate control device for each cogeneration boiler is intended to be a 3-field electrostatic precipitator manufactured by ABB Environmental Services. Each boiler also will be fitted with a multi-tube cyclone dust collector manufactured by Barron Industries to collect large particulate matter and prevent over loading the electrostatic precipitator, however flyash reinjection is not included. All conveyors and conveyor transfer points will be enclosed to prevent fugitive particulate matter emissions (except those associated with the stackers/reclaimers). Water sprays or chemical wetting agents and stabilizers will be applied to stockpiles, handling equipment, and unenclosed transfer points as necessary to minimize fugitive dust emissions.

Monitoring Equipment: Each cogeneration boiler will be equipped with Continuous Emissions Monitoring Systems (CEMS) to monitor and record emissions of carbon monoxide, nitrogen oxides, opacity, and sulfur dioxide. The following parameters will also be monitored and recordable on each unit: fuel feed rate, steam production, steam pressure, steam temperature, flue gas oxygen content and net electrical energy production.

Miscellaneous Equipment: Other equipment includes: a fuel feed system; bagasse/wood stockpiles; an ash handling and storage system; one 50,000 gallon distillate oil storage tank; two steam turbine-electrical generator sets; steam condensers; cooling towers; exhaust fans and stacks.

## 5. HAZARDOUS AIR POLLUTANTS – MACT ANALYSIS

As previously indicated by the Department (PSD-FL-197G), "If the PSD permit for the cogeneration plant is surrendered, the Department will give no consideration to any existing equipment at the cogeneration plant in future permitting decisions." The PSD permits related to prior construction activities were surrendered on August 1, 2002. One of the requirements a major new source or major modification must satisfy in order to have commenced construction is that the owner or operator must have obtained and must continue to hold all necessary pre-construction approvals required under the SIP. If all necessary pre-construction approvals have not been obtained and maintained, construction has not commenced. Indeed, if the applicant contends that construction has commenced for these sources, then the facility is in violation of having done so without the pre-construction approvals it now seeks. Therefore, in addition to a Determination of Best Available Control Technology, this Determination will represent the Department's new source (case-by-case) MACT for Palm Beach Power (PBPC).

In response to the Department's request for the applicant to provide a case-by-case MACT Determination with the application, the applicant indicated that the proposed emission limits are identical to the best-controlled similar source (New Hope Power, also a Florida facility). The applicant therefore concluded that the proposed BACT emission limits for Palm Beach Power represent its case-by-case MACT Determination {CAA Section 112(j)}.

Before control requirements are established for a category, EPA identifies an emission unit or group of emissions units that will be regulated collectively. For the wood/bagasse burning units proposed herein, EPA has defined a grouping of sources, which are large (> 250 MMBtu/hr) boilers combusting solid fuel. Then, EPA identifies the level of control that represents MACT under the guidelines established in the Clean Air Act (CAA), using a two-step process.

The *first step* in this process is to determine the "MACT floor," which is the statutory minimum level of control allowed to be considered as MACT. The MACT floor for new units is not to be less stringent than the emission limitation achieved by the best-controlled similar unit. The MACT floor is based on an evaluation of the current level of controls in an industry.

- For existing sources (i.e., those constructed before the NESHAP is first proposed), the MACT floor is the "average emission limitation achieved in practice by the best performing 12 percent of sources." EPA has historically equated this requirement to mean that if more than 6 percent of particular emission unit types are controlled (i.e., the average of the 12 percent of sources is at the mean, or 6th percentile), then the



## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

MACT floor would be some type of control. If less than 6 percent of sources are controlled, then the MACT floor is "no control."

- For new sources (i.e., those constructed after proposal of the NESHAP), the MACT floor is equal to the "best controlled similar source." While the determination of the MACT floor for existing sources involves looking only at units within the specific source category being evaluated, the determination of the MACT floor for existing sources can include *any source within any category* that EPA determines is "similar."

Once EPA has established the MACT floor for a group of emission units, the second step in establishing MACT is to look "beyond" or "above" the floor to determine whether additional controls can be justified on a cost effectiveness basis (i.e., annualized cost divided by annual emission reduction).

On November 26, 2002 the EPA Administrator signed The Industrial Boiler and Process Heater MACT proposal. It was to appear in the Federal Register within 2 weeks after signature, which is during the time that the attendant evaluation is occurring. The preamble, regulation and a fact sheet can be found at the following web address: <http://www.epa.gov/ttn/oarpg>.

The Department notes that EPA has established the preliminary MACT floor as follows (shown in part):

SOURCE	Subcategory	Particulate Matter (PM)	Or	Total Selected Metals	Hydrogen Chloride (HCl)	Mercury (Hg)	Carbon Monoxide (ppm @ 3% O <sub>2</sub> )
New Boiler or Process Heater	Solid Fuel Large Unit	0.026 lb/MMBtu	Or	0.0001 lb/MMBtu	0.02 lb/MMBtu	0.000003 lb/MMBtu	400

For solid fuel-fired boilers, EPA is proposing to allow sources to choose one of two emission limit options: (1) existing and new affected sources may choose to limit PM emissions to the level listed in Table 1, or (2) existing and new affected sources may choose to limit total selected metals emissions to the level listed in Table 1. The metals emission limit is for the sum of emissions of eight selected metals: arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium.

In summary, the applicant contends that its evaluation of MACT for PBPC (via comparison to a best controlled similar source) yields a determination, which is less stringent than the promulgated MACT floor for its class of unit. However, according to 40CFR Part 63, for the purposes of section 112(g), two criteria should be used to determine if a source is similar: (1) whether the two sources have similar emission types (e.g. vents versus stacks) and (2) whether the sources can be controlled with the same type of control technology (e.g. ESP versus baghouse). Based upon this type of comparison, most of the over 1800 units included within the MACT database are likely similar. Even a tabulation of only those units which include wood in their profile for fuels, reveals that over half (900) of the listed units combust wood. Therefore, the Department believes that any further subcategorization of the units will not significantly reduce the population of similar units. In summary, the Department does not accept the applicant's contention that New Hope Power represents the best-controlled similar source; the emission limitations from New Hope Power are less stringent than the MACT floor. Instead, the Department adopts the emission limits from the above Table 1 (solid fuel large unit) as the appropriate levels for MACT for PBPC. Pending guidance from EPA to the contrary, the Department does not intend to look "beyond" or "above" the MACT floor to determine whether additional controls and more stringent limits can be justified on a cost effectiveness basis. The Department's case-by-case MACT Determination Summary follows:

### MACT DETERMINATION SUMMARY

Particulate Matter	Hydrogen Chloride	Mercury	Carbon Monoxide
0.026 lb/MMBtu	0.02 lb/MMBtu	0.000003 lb/MMBtu	400 ppm @ 3% O <sub>2</sub>

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## 6. DEPARTMENT'S BACT DETERMINATION

The Department is required to establish the Best Available Control Technology (BACT) for each pollutant emitted in excess of the PSD Significant Emission Rates. The applicant reviews current control technologies and techniques for similar projects and proposes control options and emissions standards for the project. The Department reviews the information provided by the applicant with all other available information and makes a determination of the Best Available Control Technology (BACT) for each "significant" regulated pollutant. The BACT determination must be based on the maximum degree of emissions reduction that the Department determines is achievable through application of production processes and available methods, systems, and techniques for control of each such pollutant. The Department's determination is made on a case-by-case basis for each proposed project, taking into account energy, environmental and economic impacts. The Department must also give consideration to:

- Any EPA determination of BACT pursuant to Section 169 of the Clean Air Act, and any emission limitation contained in 40 CFR Part 60 (NSPS) or 40 CFR Part 61 (NESHAP).
- All scientific, engineering, and technical material and other information available to the Department.
- The emission limiting standards or BACT determinations of any other state.
- The social and economic impacts of the application of such technology.

The EPA currently directs that BACT should be determined using the "top-down" approach. In this approach, available control technologies are ranked in order of control effectiveness for the emissions unit under review. The most stringent control option is evaluated first and selected as BACT unless it is technically infeasible for the proposed project or rejected due to adverse energy, environmental or economic impacts. If the control option is eliminated, the next most stringent alternative is considered. This top-down approach continues until BACT is determined. BACT determinations must result in the selection of control technologies capable of achieving at least the applicable emission standards regulated by 40CFR Part 60 (NSPS) or 40CFR Part 61 (NESHAP). The Department will consider the control or reduction of "non-regulated" air pollutants when determining the BACT limit for regulated pollutants, and will weigh control of non-regulated air pollutants favorably when considering control technologies for regulated pollutants. The Department will also favorably consider control technologies that utilize pollution prevention strategies. These approaches are consistent with EPA's consideration of environmental impacts and stated policy for pollution prevention.

### 6.1 SULFUR DIOXIDE AND SULFURIC ACID MIST (SO<sub>2</sub>/SAM)

For the cogeneration units, the applicant has requested limits of 0.2 lb/MMBtu and 0.06 lb/MMBtu for SO<sub>2</sub> emissions over the respective averaging times of 24 hours and annual, although it has provided modeling at 0.3 lb/MMBtu over 3 hour periods. These units are subject to Subpart Da under 40CFR60. For the purpose of establishing NSPS limits, the Department will consider the units to meet the 40CFR60 Subpart Da definition of "resource recovery units", meaning that SO<sub>2</sub> emissions must minimally meet 1.2 lb/MMBtu over a 30-day rolling average. Federally enforceable requirements to combust 75% non-fossil fuel on a heat input basis each calendar quarter will be required. A review of the BACT Clearinghouse provided by the applicant indicates 11 facilities, 7 of which have SO<sub>2</sub> emission limits at 0.03 lb/MMBtu or less, averaging just above 0.2 lb/MMBtu. The remaining 4 facilities indicate limits of 0.06-0.17 lb/MMBtu, averaging just above 0.10 lb/MMBtu. The Department located an additional 4 wood-burning facilities in California with SO<sub>2</sub> emission limits ranging from 0.025 lb/MMBtu to 0.044 lb/MMBtu. Three of those facilities utilized limestone injection for SO<sub>2</sub> control and were limited to 0.027 lb/MMBtu or less, whereas the facility indicating a limit of 0.044 lb/MMBtu included no SO<sub>2</sub> controls. In summary, 15 facilities were reviewed with 10 indicating limits of 0.03 lb/MMBtu or less, and a maximum emission rate at 0.17 lb/MMBtu.

The applicant provided an economic analysis for a dry scrubber based upon two quotes. The system was priced to provide a 90% SO<sub>2</sub> reduction, for an SO<sub>2</sub> output on each cogeneration boiler of approximately 20 TPY. The applicant determined that the lower priced quote yielded a cost effectiveness of \$9200 per ton of SO<sub>2</sub> removed and contended that this was excessive. Since the quoted systems included baghouses for PM control, the Department removed a portion of the costs attributable to that equipment (which more appropriately is a PM control option) and determined that the cost effectiveness for SO<sub>2</sub> control is actually closer to \$7000 per ton. Given the Department's acceptance of a limited firing of 0.05% sulfur oil as representing BACT for a multitude of recently permitted oil-

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

fired power plant projects, an equivalent limit of approximately 0.058 lb/MMBtu may be appropriate (AP-42, Table 1.3-1). Accordingly, the Department will establish an annual limit of 0.058 lb/MMBtu. Concerning short-term limits, the Department finds little basis to establish a BACT limit above 0.17 lb/MMBtu. The Department is more inclined to utilize the State of New Jersey Department of Environmental Protection SOTA Manual for boilers. According to Section 3.12.2.4 entitled "*State of the Art Emission Levels and Control Technologies for Boilers Fired by Other Solid Fuels*", the category refers to all solid fuels other than coal. Examples include wood and wood waste, bagasse, tire chips, and mixtures of sludge, coal and bark. Tables 4 and 12 from the manual are included below; referenced emission limits are 1-hour averages:

### Boilers Fired by Other Solid Fuels Boilers fired by other solid fuels $\geq 250$ MMBtu/hr

Criteria Pollutant	Control Technology
NO <sub>x</sub>	SNCR
CO	Combustion Control
VOC	Combustion Control
SO <sub>2</sub> and Acid Gases	Not Specified
TSP/PM <sub>10</sub>	Multi cyclones with ESP or Fabric Filter

Criteria Pollutant	Emission Factor (lb/MMBtu)
NO <sub>x</sub>	0.10
CO	0.10
VOC	0.05
SO <sub>2</sub>	0.15
TSP/PM <sub>10</sub>	0.02
HCl	0.03

The Department finds 0.15 lb/MMBtu for a 24-hour averaging period to represent a reasonable BACT limit for short-term emissions and along with a 30-day rolling average 0.058 lb/MMBtu and accordingly establishes BACT. SAM emissions are requested at 0.0184 lb/MMBtu and 0.0037 lb/MMBtu for averaging periods of 3 hour and annual and are acceptable. Concerning the package boiler, the Department accepts the applicant's proposed BACT for SO<sub>2</sub> and SAM of clean fuels (natural gas and 0.05% sulfur oil), resulting in emission limits of 0.058 lb/MMBtu and 0.0026 lb/MMBtu respectively.

### 6.2 NITROGEN OXIDES (NO<sub>x</sub>)

The applicant has requested an emission limit of 0.15 lb/MMBtu based upon 30-day rolling average for the cogeneration boilers. A SNCR system is proposed for control and the applicant has rejected the application of SCR. The applicant initially provided quotes for developing control cost calculations associated with SCR and SNCR and concluded that those costs were \$7750 and \$1626 per ton respectively, which the Department indicated (under separate cover) would not be rejected. In a later submittal, the applicant indicated that the lone SCR vendor to provide a quote for SCR (Hamon Research Cottrell) ultimately withdrew the quote, indicating that the presence of potassium, sodium and phosphorous in the gas stream would deactivate the catalyst at an unreasonably high rate. Accordingly, the applicant concluded that SCR was technically infeasible for this application. The Department does not completely accept this conclusion based upon its own discussions with Haldor Topsoe. However, the Department does recognize that the known worldwide applications of SCR on bagasse and wood-fired boilers is limited, even more so than applications of SCR for refuse-fired plants, for which only non-US applications currently exist (although there are many). Although the analysis did not include the application of reburn technology as a potential NO<sub>x</sub>-control scheme, since the applicant has indicated that the NSPS requirement of 1.6 lb/MW-hr gross energy output (based upon a 30-day rolling average) can be met via SNCR, it is a demonstrated technology and is clearly cost effective, the Department will reject SCR and establish SNCR as the control technology used to meet this limit. This limit (1.6 lb/MW-hr gross energy output) will also represent the Department's BACT Determination.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

For reference, *gross output* means the gross useful work performed by the steam generated. For units generating only electricity, the gross useful work performed is the gross electrical output from the turbine/generator set. For cogeneration units (such as PBPC), the gross useful work performed is the gross electrical output plus one half the useful thermal output (i.e., steam delivered to an industrial process).

For the package boiler, the Department accepts the applicant's submittal of November 21, 2002 that included vendor support for NO<sub>x</sub> limits of 0.10 lb/MMBtu and 0.04 lb/MMBtu for oil and gas firing respectively. However, this is predicated upon the applicant's cost effectiveness calculation where SCR was rejected based upon an assumed package boiler capacity factor of 50%. It is clear that SCR is cost-effective at a higher capacity factor. The above limits will be demonstrated initially, with 30-day rolling averages of 0.12 lb/MMBtu and 0.06 lb/MMBtu to be demonstrated by CEMS. The capacity factor of the package boiler shall be limited to 50% (4380 hours per year).

### 6.3 FLUORIDES (F1) AND LEAD (Pb)

The Department has elected to impose standards, which cause a PSD Review to be inapplicable for these pollutants, rather than to establish a limit via BACT (which would likely be more stringent). The imposition of these standards appears to provide adequate operating margin based upon submitted fuel analyses. These standards are established for each cogeneration boiler as follows:

For Fluorides (F1), the applicant has requested an emission rate of  $7 \times 10^{-4}$  lb/MMBtu. This represents an equivalent emission rate of 0.53 lb/hr. For Lead (Pb), the applicant has requested an emission rate of  $1.5 \times 10^{-4}$  lb/MMBtu. This represents an equivalent emissions rate of 0.11 lb/hr. The Department will establish emission limits of 0.43 lb/hr and 0.09 lb/hr for fluorides and lead respectively.

The equivalent annual facility emissions are thus 3.80 and 0.84 TPY for fluorides and lead respectively. The net emissions increases are 2.99 and 0.59 TPY for fluorides and lead respectively.

### 6.4 NON-BACT ESTABLISHED POLLUTANT LIMITS

#### 6.4.1 PARTICULATE MATTER

The applicable NSPS for Particulate Matter (PM) emissions on the cogeneration boilers follows. The Department believes that these limits are achievable via the applicant's proposed control equipment of ESP and multicyclones. Since the cogeneration units are subject to MACT, the Department will establish the preliminary MACT Floor for New Sources of 0.026 lb/MMBtu as the emission limit, which is more stringent than the NSPS (below).

##### *60.42a Standard for particulate matter.*

(a) On and after the date on which the performance test required to be conducted under § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of:

- (1) 13 ng/J (0.03 lb/million Btu) heat input derived from the combustion of solid, liquid, or gaseous fuel;
- (2) 1 percent of the potential combustion concentration (99 percent reduction) when combusting solid fuel; and
- (3) 30 percent of potential combustion concentration (70 percent reduction) when combusting liquid fuel.

(b) On and after the date the particulate matter performance test required to be conducted under § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

For the package boiler, the fuel specification will provide an acceptable surrogate for an emission limit. The Department additionally accepts the applicant's proposal of enclosures, a baghouse and watering for control of the bulk of the fugitives, resulting in maximum annual emissions of 2.53/7.77 TPY for PM<sub>10</sub> and TSP respectively.

#### 6.4.2 CO AND VOC

With regard to CO and VOC emissions, the applicant indicates that proper furnace design and good combustion methods will be used. However, with respect to CO emissions, the applicant has not provided compelling evidence to the Department that the proposed emission limits are commensurate with such control methods, particularly with the cogeneration units. If the cogeneration units were subject to BACT, the Department would be inclined to establish limits around 0.1 lb/MMBtu, such as the New Jersey SOTA referenced in Section 6.1 above. Since the

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

cogeneration units are subject to MACT, the Department will establish the preliminary MACT Floor for New Sources (400 ppmvd @ 3% O<sub>2</sub>) as an appropriate limit. For any 8-hour period during which a start-up or shutdown has occurred, an alternate limit of 1000 ppmvd (rolling) averaged over the applicable 8-hour period will apply.

### 6.4.3 MERCURY (Hg)

The applicant has proposed an emission limit of 0.0041 lb/hr for the cogeneration boilers, which is based upon an emission factor of  $5.4 \times 10^{-6}$  lb/MMBtu. Since the cogeneration units are subject to MACT, the Department will establish the preliminary MACT Floor for New Sources of  $3.0 \times 10^{-6}$  lb/MMBtu as the emission limit. Carbon injection will be used as necessary to meet this standard.

### 7. EMISSION LIMIT SUMMARY

Pollutant	Cogeneration Boilers	Package Boiler
PM <sub>10</sub>	0.026 lb/MMBtu - annual test	See SO <sub>2</sub> requirement – fuel sampling
CO	400 ppmvd @ 3% O <sub>2</sub> – 30 day rolling average	200 ppmvd @ 3% O <sub>2</sub> - initial test
VOC	0.06 lb/MMBtu – initial test	0.03 lb/MMBtu - initial test
Hg	3.0E-6 lb/MMBtu – initial test 2 unit average	NA
Pb	0.09 lb/hr (PSD avoidance) – initial test 2 unit avg.	NA
Fl	0.43 lb/hr (PSD avoidance) – initial test 2 unit avg.	NA
SO <sub>2</sub>	0.058/0.15 lb/MMBtu (12 mo. rolling /24-hour avg.)	0.058 lb/MMBtu - fuel sampling
SAM	0.0037 (annual) / 0.0184 lb/MMBtu (3-hour average) (Initial test only for 3-hr standard; fuel sampling and compliance with SO <sub>2</sub> standard by CEMS thereafter)	0.0026 lb/MMBtu - initial test
NO <sub>x</sub>	1.6 lb/MW-hr gross energy output - 30-day rolling average	0.10/0.04 lb/MMBtu - annual test; 0.12/0.06 lb/MMBtu - 30-day rolling avg.
HCl	0.02 lb/MMBtu – annual test	NA
NH <sub>4</sub> slip	10 ppmvd (biomass) / 25 ppmvd (oil gas) annual test	NA

Specific permit conditions shall further describe these limitations.

### 8. SOURCE IMPACT ANALYSIS

#### 8.1 DESCRIPTION OF VICINITY OF FACILITY

The facility is located east of Pahokee, which is at the southeast corner of Lake Okeechobee, in northwest Palm Beach County. Martin County is located to the north. Pahokee has a population of nearly 6,000 people compared to the 1.1 million in Palm Beach County and 130,000 in Martin County. Population centers in both Palm Beach and Martin counties are concentrated towards the east near the coast. However, in Palm Beach County there is development towards the west throughout the entire county. Despite this ongoing westward growth, cities in the extreme western part of the county, such as Pahokee, have experienced little if any growth in recent years.

The project site and almost all of the surrounding area is agricultural and primarily dedicated to sugar cultivation. There are a number of canals that are used for flood control and field drainage. The sugar cane processing season is roughly from April to November and involves open burning of mature cane fields, followed by cane harvesting, delivery to the mills and further processing to raw or refined sugar.

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## 8.2 AIR QUALITY MONITORING IN PALM BEACH COUNTY

The following SO<sub>2</sub>, NO<sub>x</sub>, CO and Pb monitors in Palm Beach County were used as background monitors. These are the closest monitors to the facility. These monitoring sites are shown in Figure 8.

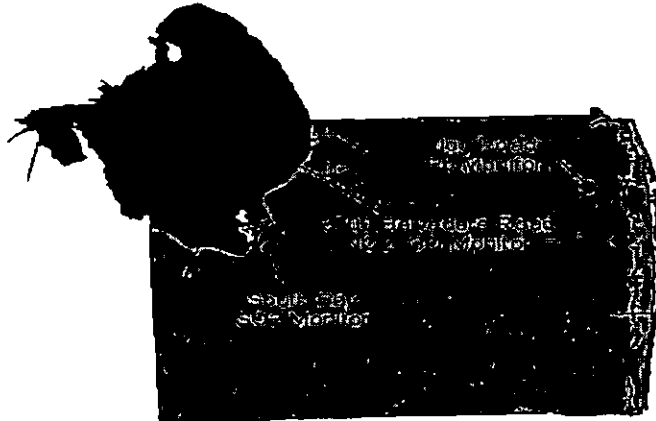


Figure 8 – Palm Beach County Monitoring Network in Vicinity of Palm Beach Power

Measured SO<sub>2</sub>, NO<sub>2</sub>, CO and Pb ambient air quality is given in the following table. The highest measured values are all much less than the respective National Ambient Air Quality Standards. The average measurements are all much less than the respective standards.

1999-2001 PALM BEACH COUNTY AMBIENT AIR QUALITY

Pollutant	Site Location			Averaging Period	Ambient Concentration				
	City	Site no.	UTM		1st High	2nd High	Mean	Standard	Units
SO <sub>2</sub>	South Bay	099-2101	17-2949.5N	3-hour	39	23		1300 <sup>a</sup>	ug/m <sup>3</sup>
			528.5E	24-hour	10	8		260 <sup>a</sup>	ug/m <sup>3</sup>
				Annual			5	60 <sup>b</sup>	ug/m <sup>3</sup>
NO <sub>2</sub>	West Palm Bch	099-1004	17-2952.4N-589.5E	Annual			30	100 <sup>b</sup>	ug/m <sup>3</sup>
CO	West Palm Bch	099-1004	17-2952.4N-589.5E	1-hour	4	4		35 <sup>a</sup>	ppm
				8-hour	3	3		9 <sup>a</sup>	ppm
Pb	West Palm Bch	099-0018	17-2964.8-584.6E	Quarterly			0	1.5	ug/m <sup>3</sup>
a - Not to be exceeded more than once per year.									
b - Arithmetic mean.									

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## 8.3 AIR QUALITY IMPACT ANALYSIS

### 8.3.1 INTRODUCTION

The proposed project will increase emissions of five pollutants at levels in excess of PSD significant amounts: NO<sub>x</sub>, SO<sub>2</sub>, F, Pb and SAM. NO<sub>x</sub> and SO<sub>2</sub> are criteria pollutants and have national and state ambient air quality standards (AAQS), PSD increments, significant impact levels, and de minimus monitoring levels defined for them. Pb is a criteria pollutant and has only AAQS and a de minimus monitoring level defined for it. F has only a de minimus monitoring level defined for it. There are no applicable PSD increments, AAQS, significant impact levels, or de minimus monitoring levels for SAM; however, the BACT determination will set the emission limits for SAM and F.

The applicant's initial NO<sub>x</sub> and SO<sub>2</sub> significant air quality impact analyses for the cogeneration boilers operating alone predicted significant impacts only for SO<sub>2</sub> in the Class II area in the vicinity of the project. Therefore, further applicable AAQS and PSD increment impact analyses for SO<sub>2</sub> only were required in the vicinity of the project. However, since there will be a period of start-up testing when the cogeneration boilers will be running simultaneously with the existing sugar mill boilers during the crop season, significant impact analyses were done for this scenario for NO<sub>x</sub>, SO<sub>2</sub>, CO and PM<sub>10</sub> emissions. Significant impacts were predicted for NO<sub>x</sub>, SO<sub>2</sub> and CO. Therefore, further applicable AAQS and PSD increment impact analyses for NO<sub>x</sub>, SO<sub>2</sub> and CO were required in the Class II area for this scenario. Since there is no significant impact level for Pb, an AAQS analysis was also required for this pollutant for both scenarios.

The results of the SO<sub>2</sub> AAQS and PSD Class II increment analyses for the simultaneous operations scenario showed predicted violations of the SO<sub>2</sub> AAQS and PSD Class II increments. This project did not significantly contribute to these predicted violations. The Department identified U.S. Sugar Bryant as the significant contributor to these violations. Therefore, as part of the permitting action for the PBPC boilers, U.S. Sugar Bryant submitted a permit application, which the Department finds acceptable, to lower the fuel sulfur content of their mill boilers to a maximum of 0.7%. The applicant also provided SO<sub>2</sub> modeling results, with the lowered emission rates as input, which showed that with the reduced emission rates from U.S. Sugar Bryant incorporated as part of this permit, the AAQS and PSD increments would be met during the simultaneous operations scenario.

The nearest PSD Class I area is the Everglades National Park (ENP) located about 119 km to the south. The applicant's PSD Class I air quality analysis showed no significant impacts for the cogeneration boilers when they are operated alone. Therefore, a cumulative PSD Class I increment analysis was not required. However, significant impacts were predicted for SO<sub>2</sub> in the PSD Class I area with simultaneous operation; therefore an SO<sub>2</sub> PSD increment analysis for the Class I area was required for this scenario.

Except for SO<sub>2</sub>, the maximum predicted impacts for all pollutants were below their respective *de minimus* ambient impact levels. Therefore, pre-construction monitoring at the proposed site was not required for this project for CO, NO<sub>x</sub> and Pb. Based on the preceding discussion, the air quality analyses required by the PSD regulations for this project were the following:

- Applicable Ambient Air Quality Standards (AAQS) and PSD increment analyses for NO<sub>x</sub>, SO<sub>2</sub>, CO and Pb in the Class II area in the vicinity of the project for the simultaneous operation scenario;
- Ambient Air Quality Standards (AAQS) and PSD increment analyses for SO<sub>2</sub> in the Class II area in the vicinity of the project for the cogeneration boilers operating alone scenario;
- A PSD increment analysis in the PSD Class I area for SO<sub>2</sub> for the simultaneous operation scenario;
- An analysis of impacts on soils, vegetation, visibility, and of growth-related air quality modeling impacts.

Based on these required analyses, the Department has reasonable assurance that the proposed project, as described in this report and subject to the conditions of approval proposed herein, will not cause or significantly contribute to a violation of any AAQS or PSD increment. However, the following EPA-directed stack height language is included: "In approving this permit, 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 if and when EPA revises 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.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

### 8.3.2 AMBIENT MONITORING REQUIREMENTS

Preconstruction ambient air quality monitoring is required for all pollutants subject to PSD review unless otherwise exempted or satisfied. The monitoring requirement may be satisfied by using existing representative monitoring data, if available. An exemption to the monitoring requirement may be obtained if the maximum air quality impact resulting from the projected emissions increase, as determined by air quality modeling, is less than a pollutant-specific de minimus concentration. In addition, if EPA has not established an acceptable monitoring method for the specific pollutant, monitoring may not be required.

If preconstruction ambient monitoring is exempted, determination of "background" concentrations for PSD significant pollutants with established AAQS may still be necessary for use in any required AAQS analysis. These concentrations may be established from the required preconstruction ambient air quality monitoring analysis or from existing representative monitoring data. These "background" ambient air quality concentrations are added to pollutant impacts predicted by modeling and represent the air quality impacts of sources not included in the modeling.

The table below shows that only predicted SO<sub>2</sub> impacts from the project are predicted to be above the de minimus levels. Preconstruction ambient air quality monitoring is therefore required only for SO<sub>2</sub>. Since monitoring data exist in the vicinity of the plant, using these data can satisfy the monitoring requirement. SO<sub>2</sub> "background" concentrations of 47, 13 and 5 ug/m<sup>3</sup> for the 3, 24-hour and annual averaging times, respectively, were established from these data for use in the AAQS analysis required for SO<sub>2</sub>. Determination of "background" concentrations for NO<sub>2</sub>, CO and Pb is necessary because applicable AAQS analyses are required for these pollutants. All of these "background" concentrations were established from existing air quality data. "Background" concentrations of 4,600 and 3,220 ug/m<sup>3</sup> for the 1-hour and 8-hour averaging times, respectively, were established for CO. A "background" concentration of 30 ug/m<sup>3</sup> was established for the NO<sub>2</sub> annual averaging time, and a value of zero was established for the Pb "background" concentration.

#### MAXIMUM PROJECT AIR QUALITY IMPACTS FOR COMPARISON TO THE DE MINIMIS AMBIENT IMPACT LEVELS

Pollutant	Averaging Time	Max Predicted Impact (ug/m <sup>3</sup> )	De Minimus Level (ug/m <sup>3</sup> )	Impact Greater Than De Minimus?
PM <sub>10</sub>	24-hour	5	10	NO
NO <sub>2</sub>	Annual	2	14	NO
SO <sub>2</sub>	24-hour	19	13	YES
CO	8-hour	560	575	NO
F1	24-hour	0.06	0.25	NO
Pb	3-month	0.004	0.1	NO

### 8.3.3 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 and output features. 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.



## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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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 the National Weather Service (NWS) station at West Palm Beach, Florida (surface and upper air data). The 5-year period of meteorological data was from 1987 through 1991. This NWS 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.

### PSD CLASS I AREA

Since the PSD Class I ENP is greater than 50 km from the proposed facility, long-range transport modeling was required for the Class I impact assessment. The California Puff (CALPUFF) dispersion model was used to evaluate the potential impact of the proposed pollutant emissions on the PSD Class I increments and two Air Quality Related Values (AQRVs), regional haze and deposition of sulfur and nitrogen compounds. 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. It is also 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 mechanisms. For this project, CALPUFF was used with the South Florida CALMET wind field for the year 1990.

### 8.3.4 SIGNIFICANT IMPACT ANALYSES

In order to determine whether there are predicted significant impacts from the project, the applicant conducts modeling using only the proposed project's emissions changes. For each pollutant subject to PSD and also subject to PSD increment and/or AAQS analyses, this modeling compares maximum predicted impacts due to the project with PSD significant impact levels to determine whether significant impacts due to the project are predicted in the vicinity of the facility or in the PSD Class I area, the ENP. If no significant impacts are shown, the applicant is exempted from doing any further modeling. If this modeling shows significant impacts, additional modeling which includes the emissions from surrounding facilities is required to determine the project's impacts on the existing air quality and any applicable AAQS or PSD increments.

The significant impact modeling analyses for the proposed PBPC project evaluated the two worst-case operational scenarios: operation of the PBPC facility with only the cogeneration boilers, which will occur after the permanent shutdown of the Osceola Farms sugar mill boilers; and simultaneous operation of the PBPC facility and the Osceola Farms sugar mill boilers during the crop season. This latter scenario is temporary and could occur up to 120 days over an eighteen month time period after initial startup of the facility. There are two cases of operation during the cogeneration only scenario, one for the crop season and one for the off-crop season. There are several cases of operation for the simultaneous scenario. In addition CO and PM<sub>10</sub> impacts were also evaluated for the simultaneous operation scenario since these would be PSD significant pollutants if this scenario were permanent.

The receptor grids for use in the Class II area were polar grids comprised of 36 radials, spaced at 10-degree intervals (576 receptors). They began at the plant property and extended out to 35 km. An additional 182 Cartesian grid receptors, spaced at 100 meters, were used to predict impacts along the fence line areas. In addition at the off-property areas between the fence line and the innermost ring distance of 4.0 km, 67 discrete polar receptors were used, spaced at 10-degree intervals and at distances of 1.2, 1.5, 2.0 and 3.0 from the origin.

For the ENP Class I area, concentrations were predicted at 126 discrete receptors located along the border of the ENP PSD Class I area.

The tables below show the results of the significant impact modeling for the Class II and Class I areas for the two scenarios:

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## MAXIMUM PROJECT AIR QUALITY IMPACTS FROM THE COGENERATION BOILERS ALONE FOR COMPARISON TO THE PSD CLASS II SIGNIFICANT IMPACT LEVELS

Pollutant	Averaging Time	Max Predicted Impact (ug/m <sup>3</sup> )	Significant Impact Level (ug/m <sup>3</sup> )	Significant Impact?
SO <sub>2</sub>	Annual	0.14	1	NO
	24-Hour	19	5	YES
	3-Hour	86	25	YES
NO <sub>x</sub>	Annual	0.5	1	NO

## MAXIMUM PROJECT AIR QUALITY IMPACTS FROM SIMULTANEOUS OPERATION OF THE COGENERATION BOILERS AND EXISTING MILLS FOR COMPARISON TO THE PSD CLASS II SIGNIFICANT IMPACT LEVELS

Pollutant	Averaging Time	Max Predicted Impact (ug/m <sup>3</sup> )	Significant Impact Level (ug/m <sup>3</sup> )	Significant Impact?
SO <sub>2</sub>	Annual	1.01	1	YES
	24-Hour	16	5	YES
	3-Hour	67	25	YES
NO <sub>x</sub>	Annual	2.3	1	YES
PM <sub>10</sub>	Annual	0.6	1	NO
	24-Hour	4.8	5	NO
CO	8-Hour	560	500	YES
	1-Hour	2025	2000	YES

A significant impact was predicted in the Class II area in the vicinity of the project for only the short-term SO<sub>2</sub> averaging times when the cogeneration boilers are operating alone. The applicant was exempted from further modeling for the SO<sub>2</sub> annual averaging time and for NO<sub>x</sub>. When the cogeneration boilers are operating simultaneously with the existing mill boilers, significant impacts were predicted for all three SO<sub>2</sub> averaging times, for both CO averaging times, and for NO<sub>x</sub>. Therefore, further applicable SO<sub>2</sub>, CO and NO<sub>x</sub> AAQS and PSD increment analyses in the vicinity of the facility were required for this project. PM<sub>10</sub> was exempted from further modeling.

In the Class I area, there were no predicted significant impacts for the scenario of the cogeneration boilers operating alone. However, for the simultaneous operation scenario maximum predicted SO<sub>2</sub> impacts for the 24-hour and 3-hour averaging times exceeded the EPA Class I Significant Impact Levels. Further modeling in the Class I area was required for SO<sub>2</sub> for this scenario.

## MAXIMUM PROJECT AIR QUALITY IMPACTS FROM THE COGENERATION BOILERS ALONE COMPARED WITH PSD CLASS I SIGNIFICANT IMPACT LEVELS (ENP)

Pollutant	Averaging Time	Max. Predicted Impact at Class I Area (ug/m <sup>3</sup> )	Class I Significant Impact Level (ug/m <sup>3</sup> )	Significant Impact?
NO <sub>x</sub>	Annual	0.0012	0.1	NO
SO <sub>2</sub>	Annual	0.004	0.1	NO
	24-hour	0.17	0.2	NO
	3-hour	0.98	1	NO

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

### MAXIMUM PROJECT AIR QUALITY IMPACTS FROM SIMULTANEOUS OPERATION OF THE COGENERATION BOILERS AND THE EXISTING MILL BOILERS COMPARED WITH PSD CLASS I SIGNIFICANT IMPACT LEVELS (ENP)

Pollutant	Averaging Time	Max. Predicted Impact at Class I Area (ug/m <sup>3</sup> )	Class I Significant Impact Level (ug/m <sup>3</sup> )	Significant Impact?
NO <sub>x</sub>	Annual	0.004	0.1	NO
SO <sub>2</sub>	Annual	0.01	0.1	NO
	24-hour	0.43	0.2	YES
	3-hour	1.65	1	YES
PM <sub>10</sub>	Annual	0.002	0.2	NO
	24-hour	0.08	0.3	NO

#### 8.3.5 AAQS AND PSD ANALYSES-PSD CLASS II AREA IN THE VICINITY OF THE PROJECT

The applicant performed the required AAQS and PSD increment modeling for the Class II area in the vicinity of the project. The results of this modeling are presented in the applicable sections below. As shown in these sections there were predicted violations of the annual and 24-hour AAQS and PSD Class II increments for the simultaneous operations scenario. The applicant did further analyses which showed that the project did not significantly contribute to any predicted violation of an AAQS or PSD increment during this scenario.

Even though the project's emissions do not significantly contribute to any predicted violation, the Department has identified the source that is predicted to significantly contribute to these violations and is taking measures with this permit to correct these predicted violations. US Sugar Bryant submitted a permit application to reduce the maximum permitted sulfur content of the fuel oil fired in their mill boilers to 0.7 %. Their permit request is approved as part of this permitting action. Furthermore, as part of this permit request, the applicant and U. S. Sugar Bryant submitted additional SO<sub>2</sub> AAQS and PSD increment modeling with the mill emissions from U. S. Sugar Bryant based on the reduced rates. This modeling, which is also summarized in the sections below shows that AAQS and PSD increment impacts with the reduced Bryant emission rates are below the respective standards or increments.

#### AAQS Analysis

For pollutants subject to an AAQS review, the total impact on ambient air quality is obtained by adding "background" concentrations to the maximum modeled concentrations for each pollutant and averaging time. The maximum modeled concentrations are based on the maximum allowable emissions from facility sources and all other sources in the vicinity of the facility. These "background" concentrations take into account all sources of a particular pollutant that are not explicitly modeled. The results of the significant impact analyses dictated further modeling of SO<sub>2</sub> emissions for the cogeneration boilers operating alone scenario; and SO<sub>2</sub>, NO<sub>x</sub> and CO emissions for the simultaneous operations scenario. An AAQS analysis was required for Pb for both scenarios. The results are shown in the first two tables below. As discussed above because there were predicted violations of the SO<sub>2</sub> AAQS for the simultaneous operations scenario, additional SO<sub>2</sub> modeling was submitted by the applicant and by U.S. Sugar Bryant. The results of this modeling, which are presented in the third table below, show that with reduced emissions from U. S. Sugar Bryant mills, no AAQS were predicted to be violated.

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## AMBIENT AIR QUALITY IMPACTS-COGENERATION BOILERS OPERATING ALONE

Pollutant	Averaging Time	Major Sources Impact (ug/m <sup>3</sup> )	Background Conc. (ug/m <sup>3</sup> )	Total Impact (ug/m <sup>3</sup> )	Total Impact Greater Than AAQS?	Florida AAQS (ug/m <sup>3</sup> )
SO <sub>2</sub>	Annual	38	5	43	NO	60
	24-hour	153	13	166	NO	260
	3-hour	443	47	490	NO	1300
Pb	Quarterly	.004	0	.004	NO	1.5

## AMBIENT AIR QUALITY IMPACTS-SIMULTANEOUS OPERATION OF COGENERATION BOILERS AND EXISTING MILLS

Pollutant	Averaging Time	Major Sources Impact (ug/m <sup>3</sup> )	Background Conc. (ug/m <sup>3</sup> )	Total Impact (ug/m <sup>3</sup> )	Total Impact Greater Than AAQS?	Florida AAQS (ug/m <sup>3</sup> )
SO <sub>2</sub>	Annual	100	5	105	YES	60
	24-hour	422	13	435	YES	260
	3-hour	725	47	772	NO	1300
NO <sub>2</sub>	Annual	41	30	71	NO	100
CO	8-hour	6,772	3,220	9,992	NO	10,000
	1-hour	33,822	4,600	38,422	NO	40,000
Pb	Quarterly	0.006	0	0.006	NO	1.5

## AMBIENT AIR QUALITY IMPACTS-SIMULTANEOUS OPERATION OF COGENERATION BOILERS AND EXISTING MILLS AND USSB BOILERS WITH MAXIMUM FUEL SULFUR CONTENT OF 0.7%

Pollutant	Averaging Time	Major Sources Impact (ug/m <sup>3</sup> )	Background Conc. (ug/m <sup>3</sup> )	Total Impact (ug/m <sup>3</sup> )	Total Impact Greater Than AAQS?	Florida AAQS (ug/m <sup>3</sup> )
SO <sub>2</sub>	Annual	27	5	32	NO	60
	24-hour	221	13	234	NO	260
	3-hour	913	47	960	NO	1300

## PSD CLASS II INCREMENT ANALYSIS

The PSD increment represents the amount that new sources in an area may increase ambient ground level concentrations of a pollutant from a baseline concentration, which was established in 1977 for SO<sub>2</sub> (the baseline year was 1975 for existing major sources of SO<sub>2</sub>) and 1988 for NO<sub>2</sub> (the baseline year was 1988 for existing major sources of NO<sub>2</sub>). The results of the significant impact analyses dictated further modeling of SO<sub>2</sub> emissions for the

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

cogeneration boilers operating alone scenario, and SO<sub>2</sub> and NO<sub>2</sub> emissions for the simultaneous operations scenario. The maximum PSD Class II area impacts from this project and all other increment-consuming sources in the vicinity of the facility for these two scenarios are shown in the first two tables. The two tables below show that the maximum predicted impacts are less than the allowable Class II SO<sub>2</sub> increments for the cogeneration scenario, and are greater than the allowable annual and 24-hour Class II SO<sub>2</sub> increments for the simultaneous operation scenario. As discussed above because there were predicted violations of the SO<sub>2</sub> PSD Class II increments for the simultaneous operations scenario, additional SO<sub>2</sub> modeling was submitted by the applicant and by U.S. Sugar Bryant. The results of this modeling, which are presented in the third table below, show that with reduced emissions from U. S. Sugar Bryant mills, no PSD increment violations were predicted.

### PSD CLASS II INCREMENT ANALYSIS-COGENERATION BOILERS OPERATING ALONE

Pollutant	Averaging Time	Maximum Predicted Impact (µg/m <sup>3</sup> )	Impact Greater Than Allowable Increment?	Allowable Increment (µg/m <sup>3</sup> )
SO <sub>2</sub>	Annual	9	NO	20
	24-hour	71	NO	91
	3-hour	219	NO	512

### PSD CLASS II INCREMENT ANALYSIS- SIMULTANEOUS OPERATION OF COGENERATION BOILERS AND EXISTING MILLS

Pollutant	Averaging Time	Maximum Predicted Impact (µg/m <sup>3</sup> )	Impact Greater Than Allowable Increment?	Allowable Increment (µg/m <sup>3</sup> )
SO <sub>2</sub>	Annual	41	YES	20
	24-hour	198	YES	91
	3-hour	432	NO	512
NO <sub>2</sub>	Annual	23	NO	25

### PSD CLASS II INCREMENT ANALYSIS- SIMULTANEOUS OPERATION OF COGENERATION BOILERS AND EXISTING MILLS AND USSB BOILERS WITH MAXIMUM FUEL SULFUR CONTENT OF 0.7%

Pollutant	Averaging Time	Maximum Predicted Impact (µg/m <sup>3</sup> )	Impact Greater Than Allowable Increment?	Allowable Increment (µg/m <sup>3</sup> )
SO <sub>2</sub>	Annual	1	NO	20
	24-hour	36	NO	91
	3-hour	300	NO	512

#### 8.3.6 MULTI-SOURCE PSD CLASS I INCREMENT ANALYSIS FOR SO<sub>2</sub>

The maximum predicted 24 and 3-hour SO<sub>2</sub> PSD Class I area impacts from this project and all other increment-consuming sources in the vicinity of the ENP are shown in the following table for the simultaneous operations scenario. The table shows that the maximum predicted impacts are less than the allowable Class I SO<sub>2</sub> increments in the ENP.

#### PSD CLASS I INCREMENT ANALYSIS SIMULTANEOUS OPERATION – ENP

Pollutant	Averaging Time	Maximum Predicted Impact (µg/m <sup>3</sup> )	Impact Greater Than Allowable Increment?	Allowable Increment (µg/m <sup>3</sup> )
SO <sub>2</sub>	24-hr	4	NO	5
	3-hr	19	NO	25

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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## 8.3.7 ADDITIONAL IMPACTS ANALYSIS

### *Impact on Soils, Vegetation, And Wildlife*

The maximum ground-level concentrations predicted to occur due to PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO and Pb emissions as a result of the project, including all other nearby sources, will be below the associated AAQS and applicable PSD increments. The AAQS are designed to protect both the public health and welfare. As such, this project is not expected to have a harmful impact on soils and vegetation in the PSD Class II area. The applicant did an air quality related values (AQRV) analysis for the Class I ENP area. As part of this analysis total sulfur and nitrogen deposition rates were predicted. No significant impacts on this area are expected.

### *Impact On Visibility and Regional Haze*

A regional haze analysis using the long-range transport model CALPUFF was done for the ENP Class I area. No adverse impacts were predicted.

### *Growth-Related Air Quality Impacts*

Since the PBPC boilers are existing boilers that have been shutdown, and most of the equipment needed for operation has already been constructed, there should only be a small temporary increase in the number of workers at the site. There will also be an increase in the number of permanent employees (approximately forty) as a result of the project. However, this will have a very small impact on the surrounding community, as many of these workers will come from Osceola Farms Company.

## 9. CONCLUSION

Based on the foregoing technical evaluation of the application, additional information submitted by the applicant and other available information, the Department has made a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations.

Cleveland G. Holladay, Meteorologist  
Michael P. Halpin, Professional Engineer  
Department of Environmental Protection, Bureau of Air Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

**DRAFT**

## PERMITTEE

Palm Beach Power Corp.  
Osceola Cogeneration Plant  
P. O. Box 606  
Pahokee, FL 33476  
**Authorized Representative:**  
Carlos Rionda, General Manager

<b>Permit No.</b>	PSD-FL-329
<b>Project No.</b>	0990331-009-AC
<b>SIC Nos.</b>	2061 – Sugar Processing 4911 – Electrical Generation
<b>Expires:</b>	August 1, 2005

## PROJECT AND LOCATION

Palm Beach Power proposes to construct a cogeneration facility to be situated adjacent to the Osceola Farms sugar mill. This facility is located east of Pahokee, in Palm Beach County. After a short period of start-up testing, the existing sugar mill boilers will be shutdown providing contemporaneous emissions reductions under the PSD New Source Review (NSR) program. The reductions will come from AIRS ID 0990019, Emission Units 2, 3, 4, 5 and 6. The facilities will ultimately be combined into a single major Title V Source in accordance with Rule 62-210.200(126), F.A.C. The UTM coordinates are Zone 17, 544.2 km E, 2968.0 km N.

## STATEMENT OF BASIS

This construction permit modification is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297. The above named permittee is authorized to perform the work 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 of Environmental Protection (Department).

## APPENDICES

The attached appendices are a part of this permit:

Appendix GC    General Permit Conditions  
Appendix XS    CEMS Excess Emissions Report

\_\_\_\_\_  
Howard L. Rhodes, Director  
Division of Air Resources Management

\_\_\_\_\_  
Date

**AIR CONSTRUCTION PERMIT (PSD-FL-329)**  
**SECTION I. FACILITY INFORMATION**

**FACILITY DESCRIPTION**

This facility consists of the following two plants:

**Sugar Mill:** Sugarcane is harvested from nearby fields and transported to the mill by truck. In the mill, sugarcane is cut into small pieces and passed through a series of presses to squeeze the juice from the cane. The cane juice undergoes clarification, separation, evaporation, and crystallization to produce raw, unrefined sugar. The fibrous byproduct remaining from the sugarcane is called bagasse and is burned as boiler fuel to provide process steam for the mill. The primary air pollution sources consist of five bagasse-fired boilers, which include wet scrubbers for particulate matter control. As part of the PSD permit for the cogeneration plant, the permittee is required to permanently shutdown the sugar mill boilers, EU 002 through EU 006 (inclusively) within 18 months of the date of issuance of this permit.

**Cogeneration Plant:** This is a 74 (gross) megawatt (MW), electrical power, (1-hour average), cogeneration facility (bagasse and wood material as the primary fuel and No. 2 oil and natural gas as supplementary fuels) located adjacent to the Osceola Farms' sugar mill that is east of Pahokee in Palm Beach County, Florida. The cogeneration facility contains two ABB Model VU-40 spreader-stoker steam boilers with a design heat input for each boiler of 760 million British thermal units per hour (MMBtu/hr) on bagasse and wood material or 600 MMBtu/hr on No. 2 fuel oil or natural gas. Each boiler will produce approximately 506,000 lbs/hr of steam at 1,540 pounds per square inch gauge (psig) and 955° F. Particulate matter, nitrogen oxides, and mercury emissions from each boiler will be controlled by Flakt, Inc. electrostatic precipitators in addition to Barron Industries Model 460 multi-tube collectors, Nalco-Fueltech selective non-catalytic reduction systems, and an activated carbon injection system. Auxiliary equipment includes a package boiler, a 50,000 gallon No. 2 fuel oil storage tank, feed and ash handling systems, steam turbines and condensers, electrical power generators, cooling towers, and stacks that are 8.0 ft. in diameter and a minimum 199 ft. high.

**EMISSIONS UNITS**

This permitting action authorizes the construction, testing, and operation of the cogeneration boilers and package boiler. Emissions units addressed by this permit include the following.

EU ID No.	Emissions Unit Description
<b>Facility ID No. 0990019 – Osceola Farms Company Sugar Mill</b>	
SIC No. 2061 – Raw Cane Sugar Processing	
001	Sugar Mill Boiler No. 1 (Inactive – permanently dismantled and removed.)
002	Sugar Mill Boiler No. 2 – <b>To be shut down.</b>
003	Sugar Mill Boiler No. 3 – <b>To be shut down.</b>
004	Sugar Mill Boiler No. 4 – <b>To be shut down.</b>
005	Sugar Mill Boiler No. 5 – <b>To be shut down.</b>
006	Sugar Mill Boiler No. 6 – <b>To be shut down.</b>
007	Lime Silo
<b>Facility ID No. 0990331 – Palm Beach Power Cogeneration Plant</b>	
SIC No. 4911 - Electric Services	
001	Cogeneration Boiler No. 1
002	Cogeneration Boiler No. 2
003	Package Boiler
004	Fuel/Ash Handling Systems

*{Permitting Note: Conditions in this permit related to Osceola Farms Company's sugar mill boilers are in addition to any applicable requirements in all valid air construction and operation permits.}*



**AIR CONSTRUCTION PERMIT (PSD-FL-329)**  
**SECTION I. FACILITY INFORMATION**

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**REGULATORY CLASSIFICATION**

**PSD Major Source:** This facility is classified as a fossil fuel-fired steam electric plant, one of the industries included in the list of the 28 Major Facility Categories identified in Table 62-212.400-1, F.A.C. Emissions are greater than 100 tons per year for at least one regulated pollutant, such as particulate matter (PM/PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), or volatile organic compounds (VOC). Therefore, the facility is a major facility with respect to Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

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

**Title IV:** This facility is not subject to the Acid Rain provisions of Title IV of the 1990 Clean Air Act, as amended.

**Title V:** This facility is classified as a Title V major source of air pollution because emissions of at least one regulated air pollutant, such as CO, NO<sub>x</sub>, PM/PM<sub>10</sub>, SO<sub>2</sub>, or VOC exceeds 100 tons per year.

**NSPS Sources:** This permit addresses emissions units for the cogeneration plant that are subject to New Source Performance Standards including 40 CFR 60, Subpart Da for the cogeneration boilers, 40 CFR 60, Subpart Db for the package boiler and 40 CFR 60, Subpart Kb for the fuel oil storage tank.

**RELEVANT DOCUMENTS**

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

- Initial application received April 22, 2002.
- Requests For Additional Information dated May 14, 2002 and September 5, 2002 including related applicant submittals.
- Comments from EPA Region 4 dated September 19, 2002.
- Initial Draft Permit issued January 10, 2003.

**AIR CONSTRUCTION PERMIT (PSD-FL-329)**  
**SECTION II. COMMON CONDITIONS**

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**ADMINISTRATIVE REQUIREMENTS**

1. Permitting Authorities: All documents related to applications for permits to construct or modify an emissions unit in accordance with the PSD regulations should be submitted to the Bureau of Air Regulation (BAR) of the Florida Department of Environmental Protection (DEP) at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 and phone number 850/488-0114. All documents related to applications for permits to operate (including Title V) or to construct new PSD-minor projects shall be submitted to the South District Office of the Florida Department of Environmental Protection at 2296 Victoria Avenue, Suite #364, Fort Myers, Florida 33902-2549 and phone number 239/332-6975. Copies of all such documents shall be submitted to the Palm Beach County Health Department at the address listed below.
2. Compliance Authorities: All documents related to compliance activities such as reports, tests, and notifications should be submitted to the Department's South District Office (listed above) and the Palm Beach County Health Department at P.O. Box 29 (901 Evernia Street), West Palm Beach, Florida 33402-0029 and phone number 561/355-3136. Copies of all documents required by this permit shall also be sent to the Department's Bureau of Air Regulation at the address listed above.
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 the subject emissions units 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.); Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.); and the Title 40, Parts 52, 60, and 72.6(b)(4) of the Code of Federal Regulations (CFR), adopted by reference in Rule 62-204.800, 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 permittee 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. PSD Expiration: Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. [40 CFR 52.21(r)(2)]
6. Permit Expiration: For good cause, the permittee may request that this PSD air construction permit be extended except as limited by Specific Condition No. 17 in Section III of this permit. 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.]
7. BACT Determination: In conjunction with extension of the 18-month period to commence or continue construction, phasing of the project, or an extension of the permit expiration date, the permittee may be required to demonstrate the adequacy of any previous determinations of BACT or MACT for the source. [Rule 62-212.400(6)(b), F.A.C. and 40 CFR 52.166(j)(4)]
8. 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.]
9. 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.]

**AIR CONSTRUCTION PERMIT (PSD-FL-329)**  
**SECTION II. COMMON CONDITIONS**

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10. Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions units. The permittee shall apply for a Title V operation permit in accordance with the requirements of Rule 62-213.420(1), F.A.C. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate permitting authority with copies to the Compliance Authorities. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

**EMISSIONS AND CONTROLS**

11. Unconfined Particulate Emissions: During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary. [Rule 62-296.320(4)(c), F.A.C.]
13. Circumvention: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
14. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. These emissions shall be included in the calculation of all averages for emissions with standards subject to continuous emissions monitoring requirements. [Rule 62-210.700(4), F.A.C.]
15. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify the Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]

**TESTING REQUIREMENTS**

16. Test Notification: The permittee shall notify the Compliance Authority in writing at least 30 days prior to any initial NSPS performance tests and at least 15 days prior to any other required tests. [Rule 62-297.310(7)(a)9., F.A.C. and 40 CFR 60.7, 60.8]
17. Calculation of Emission Rate: For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]
18. Applicable Test Procedures
- a. *Required Sampling Time*. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes. The minimum observation period for a visible emissions compliance test shall be sixty (60) minutes. The observation period shall include the period during which the highest opacity can reasonably be expected to occur. [Rule 62-297.310(4)(a)1. and 2., F.A.C.]
  - b. *Minimum Sample Volume*. Unless otherwise specified in the applicable rule or test method, the minimum sample volume per run shall be 25 dry standard cubic feet. [Rule 62-297.310(4)(b), F.A.C.]

**AIR CONSTRUCTION PERMIT (PSD-FL-329)**  
**SECTION II. COMMON CONDITIONS**

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- c. *Calibration of Sampling Equipment.* Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, F.A.C. [Rule 62-297.310(4)(d), F.A.C.]

**19. 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. [Rule 62-297.310(5)(a), F.A.C.]
- 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)(b), F.A.C.]

20. Special Compliance Tests: When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]

**RECORDS**

21. Records Retention: All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least five (5) years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rules 62-4.160(14) and 62-213.440(1)(b)2., F.A.C.]

**REPORTS**

22. Emissions Performance Test Reports: A report indicating the results of any required emissions performance test shall be submitted to the Compliance Authority no later than 45 days after completion of the last test run. The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8)(c), F.A.C. [Rule 62-297.310(8), F.A.C.].
23. Annual Operating Report: The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by March 1st of each year. [Rule 62-210.370(2), F.A.C.]

**AIR CONSTRUCTION PERMIT (PSD-FL-329)**  
**SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS**

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**CONSTRUCTION DETAILS**

1. Construction of the proposed cogeneration facility shall reasonably conform to the plans described in the application and permit. The facility shall be designed, constructed, and operated so that its gross generating capacity shall not exceed 74 megawatts (MW), 1-hour average. The permittee shall provide the Department with engineering, monitoring, and reporting plans for the generation capacity of the facility at least 60 days before start-up of the cogeneration plant.
2. Cogeneration Boiler Nos. 1 and 2 shall each be of the spreader stoker type with a maximum heat input of 760 million British thermal units per hour (MMBtu/hr) with bagasse and wood material fuel or 600 MMBtu/hr with No. 2 fuel oil or natural gas.
3. Each cogeneration boiler shall have an individual stack and each stack must have a minimum height of 199 feet. The stack sampling facilities for each stack must comply with Rule 62-297.310(6), F.A.C.
4. Each boiler shall be equipped with instruments to measure the fuel feed rate, steam production, steam pressure, and steam temperature.
5. Each cogeneration boiler shall be equipped with a:
  - Mechanical dust collection system consisting of large diameter multi-tube modules with airfoil vanes or equivalent equipment. The mechanical dust collectors shall be installed and maintained as pre-control devices prior to each electrostatic precipitator and designed for a removal efficiency of at least 85% of the particulate matter greater than 10 microns in size (assuming a specific gravity of 2.00);
  - Electrostatic precipitator (ESP) designed for at least 99 percent removal of particulate matter;
  - Selective non-catalytic reduction (SNCR) system designed for at least 40 percent removal of NO<sub>x</sub> as well as low ammonia slip; and
  - Carbon injection system for mercury emissions control.
6. The permittee shall install and operate continuous monitoring devices for each cogeneration boiler exhaust for opacity, nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), oxygen (O<sub>2</sub>), and carbon monoxide (CO). The monitoring devices shall meet the applicable requirements of Rule 62-297.520, F.A.C. and 40 CFR 60.47a. The opacity monitor shall be placed in the ductwork between the electrostatic precipitator and the stack or in the stack.

An oxygen meter shall be installed for each unit to continuously monitor a representative sample of the flue gas. The oxygen monitor shall be used with automatic feedback or manual controls to continuously maintain air/fuel ratio parameters at an optimum. The document "Use of Flue Gas Oxygen Meter as BACT for Combustion Controls" shall be used as a guide. A "Good Combustion Practices Plan" shall be submitted to the Department at least 60 days before start-up of the cogeneration plant.
7. At least 60 days before start-up of the cogeneration plant, the permittee shall submit an updated process flow diagram indicating the relative locations and functions of the major pieces of equipment, including: boilers, economizers, air heaters, steam turbines, electrical generators, steam flow valves, sugar mill interconnection, the fuel storage and feed systems, the activated carbon storage and injection points, the urea storage and injection points, the monitoring locations for each CEMS, the mechanical dust collectors, the electrostatic precipitators, the ID fans, and stacks. The flow diagram shall indicate approximate fuel flow rates and heat inputs, steam temperature, pressure and production rates, electrical generating capacity, boiler furnace temperatures, urea injection rates, activated carbon injection rates, electrostatic precipitator parameters, exhaust gas flow rates, temperatures and velocities, and pollutants monitored by CEMS. On

**AIR CONSTRUCTION PERMIT (PSD-FL-329)**  
**SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS**

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the exhaust gas side of the boiler, the flow diagram shall identify the approximate temperature (° F) and draft losses (inches of w.c.) after each piece of equipment.

8. For the fly ash handling and mercury control system reactant storage systems:
  - a. The particulate matter filter control system for the storage silos shall be designed to achieve 0.01 grains per actual cubic foot (gr/acf) outlet dust loading. The permittee shall submit to the Department copies of technical data pertaining to the selected particulate matter emissions control for the mercury control system reactant storage silos at least 60 days before start-up of the cogeneration plant. These data should include, but not be limited to, guaranteed efficiency and emission rates, and major design parameters.
  - b. The fly ash handling system (including transfer points and storage bin) shall be enclosed. The ash shall be wetted in the ash conditioner to minimize fugitive dust prior to it being discharged into the disposal bin.
9. At least 60 days before start-up of the cogeneration plant, the permittee shall submit to the Department an operation and maintenance plan that will allow the permittee to monitor emission control equipment efficiency and enable the permittee to return malfunctioning equipment to proper operation as expeditiously as possible. At a minimum, the plan shall include the critical control parameters for the electrostatic precipitators, the selective non-catalytic reduction (SNCR) system, the carbon injection system, and the air/fuel ratio with oxygen content for optimum combustion efficiency. The plan shall specify a target operational range for each parameter as specified by the equipment manufacturer as well as recommended actions to correct common problems related to the control equipment.
10. During land clearing and site preparation, wetting operations or other soil treatment techniques appropriate for controlling unconfined particulates, including grass seeding and mulching of disturbed areas, shall be undertaken and implemented. Any open burning of land clearing debris on this site shall be performed in compliance with Department regulations.

**OPERATIONAL AND EMISSION RESTRICTIONS**

11. The cogeneration facility steam generating units shall be constructed and operated in accordance with the capabilities and specifications described in the application and permit. The facility shall not exceed 74 (gross) megawatts generating capacity, 1-hour average. The maximum heat input rate for each steam generator shall not exceed 760 MMBtu/hr when burning 100 percent bagasse and wood material or 600 MMBtu/hr when burning 100 percent No. 2 fuel oil or natural gas. Maximum heat input to the entire facility (total of two boilers) shall not exceed  $13.32 \times 10^{12}$  Btu per year. Steam production of each boiler shall not exceed an average of 506,000 lbs/hr at 1540 psig, 955° F. The package boiler will be limited by a heat input of 211 MMBtu/hr (natural gas) and 202 MMBtu/hr (0.05% sulfur fuel oil). Additionally, the hours of operation for the package boiler are limited to 4380 hours for any consecutive 12-month period. Monthly recordkeeping is required to be kept on-site in order to ensure compliance with each of these limits.
12. The primary fuel for the cogeneration boilers shall be biomass, specifically defined by this permit as bagasse and wood material. Authorized wood material is clean construction and demolition wood debris, yard trash (such as tree trimmings), land clearing debris, and other clean cellulose and vegetative matter.  
  
The fuel used at the cogeneration facility shall not contain special wastes, except wood, lumber, trees, tree remains, bagasse, cane tops and leaves, and other clean vegetative and cellulose matter. The biomass fuel used at the cogeneration facility shall not contain hazardous substances, hazardous wastes, biomedical wastes, or garbage. The permittee shall perform a daily visual inspection of any wood or similar vegetative matter that has been delivered to the facility for use as fuel. Any shipment observed to contain prohibited

**AIR CONSTRUCTION PERMIT (PSD-FL-329)**  
**SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS**

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materials shall not be used as fuel unless such materials can be readily segregated and removed from the wood and vegetative matter.

The permittee shall design and implement a management and testing program for the wood and other materials delivered to the facility for fuel. The program shall be designed to keep painted and chemically treated wood, household garbage, toxic or hazardous non-biomass and non-combustible waste material, from being burned at this plant. A Fuel Management Program shall be submitted to the Department's Bureau of Air Regulation and Compliance Authorities for review and approval at least 60 days before start-up of the cogeneration plant. At a minimum, the program shall provide for the routine inspection and/or testing of the fuel at the originating wood yard sites as well as at the cogeneration site, to ensure that the quantities of painted or chemically treated wood in the fuel are minimized. Fuel scheduled for burning shall be inspected daily. Fuel tests shall be conducted on a weekly basis after start-up of the cogeneration plant. Based on at least 12 consecutive months of satisfactory fuel test data, the permittee may request Department approval of a revised testing schedule by applying for a modified Title V air operation permit.

13. Other permitted fuels for combustion in the cogeneration facility (including the package boiler) shall be either natural gas or "new" No. 1 or 2 fuel oil with a maximum sulfur content of 0.05 percent sulfur by weight as determined by the appropriate test method listed in 40 CFR 60.17. "New" oil means oil that has been refined from crude oil and has not been used in any manner that may contaminate it.
14. Prior to firing any fuel other than natural gas, very low sulfur distillate oil or biomass as defined and authorized by this permit, the permittee shall obtain the appropriate air construction permits from the Bureau of Air Regulation.
15. Total fossil fuel firing shall be less than 25 percent of the total heat input to each cogeneration boiler on a calendar quarter basis. Each cogeneration boiler shall be limited to combusting no more than 30% by weight on a calendar quarter basis of yard waste (yard trash) that is defined as a municipal solid waste (MSW) in 40 CFR 60.51a. Record keeping shall be required in order to demonstrate compliance with these requirements.
16. The permittee shall maintain a daily log of the amounts and types of fuels used. The amount, heating value, sulfur content, and equivalent SO<sub>2</sub> emission rate (in lb/MMBtu) of each fuel delivery shall be kept in a log for at least two years. For each calendar month, the calculated PM<sub>10</sub> and SO<sub>2</sub> (for the package boiler) and SAM (for all 3 boilers) shall be determined by fuel sampling and AP-42 factors, logged and kept onsite.
17. The permittee may retain and operate the sugar mill boilers until commercial operation of the cogeneration boilers is established, or 18 months from the issue date of this permit, whichever comes first. In no case shall the permittee operate the sugar mill boilers pursuant to this permit after this time, and the permittee shall permanently shutdown and render incapable of operation each sugar mill boiler. The Title V permit shall be revised accordingly.
18. For the biomass, fly ash, and mercury control system reactant handling facilities:
  - a. All conveyors and conveyor transfer points shall be enclosed to preclude PM emissions (except those directly associated with the stacker/reclaimers, for which enclosure is operationally infeasible).
  - b. Water sprays or chemical wetting agents and stabilizers shall be applied to storage piles, handling equipment, unenclosed transfer points, etc. during dry periods and as necessary to all facilities to maintain an opacity of less than or equal to 5 percent.
  - c. The mercury control system reactant storage silos shall be maintained at a negative pressure while operating with the exhaust vented to a filter control system. Particulate matter emissions from each of the two silos shall not exceed a visible emission limit of 5 percent opacity. A visible emission test is to be performed annually on each silo.

**AIR CONSTRUCTION PERMIT (PSD-FL-329)**  
**SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS**

19. Visible emissions from any cogeneration boiler shall not exceed 20 percent opacity, 6-minute average, except up to 27 percent opacity is allowed for 6 minutes in any 1-hour period. Stack emissions shall not exceed any limit shown in the following table:

Pollutant	Cogeneration Boilers	Package Boiler
PM <sub>10</sub>	0.026 lb/MMBtu - annual test	See SO <sub>2</sub> requirement - fuel sampling
CO*	400 ppmvd @ 3% O <sub>2</sub> - 30 day rolling average	200 ppmvd @ 3% O <sub>2</sub> - initial test
VOC	0.06 lb/MMBtu - initial test	0.03 lb/MMBtu - initial test
Hg	3.0E-6 lb/MMBtu - initial test, 2 unit average	NA
Pb	0.09 lb/hr (PSD avoidance) - initial test, 2 unit avg.	NA
Fl	0.43 lb/hr (PSD avoidance) - initial test, 2 unit avg.	NA
SO <sub>2</sub>	0.058/0.15 lb/MMBtu (12 mo. rolling /24-hour avg.)	0.058 lb/MMBtu - fuel sampling
SAM	0.0037 (annual) / 0.0184 lb/MMBtu (3-hour average) (Initial test only for 3-hr standard; fuel sampling and compliance with SO <sub>2</sub> standard by CEMS thereafter)	0.0026 lb/MMBtu - initial test
NO <sub>x</sub>	1.6 lb/MW-hr gross energy output - 30-day rolling average	0.10/0.04 lb/MMBtu (oil/gas) - annual test; 0.12/0.06 lb/MMBtu - 30-day rolling avg.
HCl	0.02 lb/MMBtu - annual test	NA
NH <sub>4</sub> slip	10 ppmvd (biomass) / 25 ppmvd (oil gas) annual test	NA

\* For any 8-hour period during which a start-up or shutdown has occurred, an alternate CO emission limit of 1000 ppmvd (rolling) averaged over the applicable 8-hour period will apply. Otherwise, the permittee shall comply with the excess emissions rule contained in Rule 62-210.700, F.A.C.

20. Initial testing (only) shall be required to demonstrate compliance with the permitted emission rates of VOC, SAM, Hg, Pb and Fl for the cogeneration boilers. Based upon the PSD evaluation, demonstrations of the emission rates for Hg, Pb and Fl are necessary to ensure that BACT is avoided, and thus averaging of the emission rates for both boilers is permissible. Initial testing (only) shall also be the means by which compliance is demonstrated with the emission rates of CO, VOC and SAM for the Package boiler.
21. CEMS shall be required for continuous demonstration with the permitted emission rates of opacity, CO, SO<sub>2</sub> and NO<sub>x</sub> for the cogeneration boilers and NO<sub>x</sub> for the package boiler. For the cogeneration boilers, the gross useful work performed is the gross electrical output plus one half the useful thermal output (i.e., steam delivered to an industrial process). Accordingly, continuous electrical and steam-flow monitoring (complete with daily totalization) shall be required for demonstration with the permitted NO<sub>x</sub> emission rate and such data shall be used as continuous inputs to the NO<sub>x</sub> CEMS system. The 30-day rolling average NO<sub>x</sub> emission rate shall then be re-calculated daily by the CEMS.
22. Annual testing shall be required to demonstrate compliance with the permitted emission rates of PM<sub>10</sub>, HCl, SO<sub>2</sub>, SAM and NH<sub>4</sub> slip for the cogeneration boilers. Annual NO<sub>x</sub> testing shall be required to demonstrate compliance with the permitted emission rates for the package boiler.

### COMPLIANCE REQUIREMENTS

#### 23. Stack Testing

- a. Within 60 calendar days after achieving the maximum capacity at which each unit will be operated, but no later than 180 operating days after start-up of the cogeneration plant, the permittee shall conduct emission compliance tests for all air pollutants listed in Specific Condition Nos. 18 and 19. The initial VE tests for the activated carbon silos can be performed during the first delivery after issuance of this permit. Tests shall be conducted during normal operations (i.e., within 10 percent of the permitted heat



**AIR CONSTRUCTION PERMIT (PSD-FL-329)**  
**SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS**

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input rate). The permittee shall furnish the Department a written report of the results of such performance tests within 45 days of completion of the tests. The emission compliance tests will be conducted in accordance with the provisions of 40 CFR 60.46a.

- b. Compliance with emission limitations and testing requirements stated in Specific Condition Nos. 18 through 22 above shall be demonstrated using the following EPA Methods, as contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources), continuous emissions monitoring data, or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants), or any other method as approved by the Department, in accordance with Rule 62-297.620, F.A.C. A test protocol shall be submitted for approval to the Bureau of Air Regulation at least 90 days prior to testing.

<u>EPA Method*</u>	<u>For Determination of:</u>
1	Selection of sample site and velocity traverses
2	Stack gas flow rate when converting concentrations to or from mass emission limits.
3 or 3A	Gas analysis when needed for calculation of molecular weight or percent O <sub>2</sub>
4	Moisture content when converting stack velocity to dry volumetric flow rate for use in converting concentrations in dry gases to or from mass emission limits
5	Particulate matter concentration and mass emissions
201 or 201A	PM <sub>10</sub> emissions
6, 6C or 19	Sulfur dioxide emissions from stationary sources.
7 or 7E	Nitrogen oxide emissions from stationary sources
9	Visible emission determination of opacity - At least three one hour runs to be conducted simultaneously with particulate testing - At least one truck unloading into the mercury reactant storage silo (from start to finish)
10	Carbon monoxide emissions from stationary sources
12	Inorganic lead from stationary sources
13B	Fluoride
18 or 25/25A	Volatile organic compounds emissions
26/26A	Hydrogen chloride
29	Mercury; Multi-metals method
101A	Particulate and gaseous mercury emissions
206	Ammonia slip

\* Other approved EPA test methods may be substituted for listed methods upon approval by the Department.

24. In accordance with Rule 62-297.310(2), F.A.C., unless otherwise stated in the applicable emission limiting standard rule, testing of emissions shall be conducted with the emissions unit operating at permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.
25. The permittee shall provide 30 days advance notice of conducting startup performance tests and 15 days for subsequent stack tests in order to afford the Department the opportunity to have an observer present.
26. Stack monitoring, fuel usage, and fuel analysis data and the status of the interconnection between the sugar mill and the cogeneration facility shall be reported to the Compliance Authorities on a quarterly basis commencing with the startup of commercial operation in accordance with 40 CFR, Part 60, Sections 60.7 and 60.49a, and in accordance with Rule 62-297.520, F.A.C. The permittee shall comply with all applicable requirements in 40 CFR 60, Subpart Kb, for the No. 2 fuel oil storage tank.

**AIR CONSTRUCTION PERMIT (PSD-FL-329)**  
**SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS**

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27. The permittee, for good cause, may request that this construction permit be extended except as limited by Specific Condition No. 17 of this permit. Such a request shall be submitted to the Bureau of Air Regulation at least 60 days before the expiration of the permit [Rule 62-4.080, F.A.C.].
28. Simultaneous Operation – The permittee is authorized to operate the sugar mill boilers until commercial operation of the cogeneration boilers is established, or 18 months from the issue date of this permit, whichever comes first. However, during this period of time (simultaneous operations), if PBPC generates more than 13,680,000 pounds of steam in a 24-hour period (average of 570,000 lb/hr), the Osceola Farms sugar mill boilers must reduce steam production by an equivalent amount of steam.
29. CEMS - The NO<sub>x</sub> monitor shall be certified and operated in accordance with the following requirements. The NO<sub>x</sub> monitor shall be certified pursuant to 40 CFR Part 60 and shall be operated and maintained in accordance with the applicable requirements of 40 CFR 60, Appendix B, Performance Specification 2. The RATA test required for the NO<sub>x</sub> monitor shall be performed using EPA Method 7 or 7E of Appendix A of 40 CFR 60. The NO<sub>x</sub> monitor(s) shall be a dual range monitor. The NO<sub>x</sub> monitor(s) for the cogeneration boiler(s) shall have a low span of 50 ppm and a high span of 1000 ppm. The NO<sub>x</sub> monitor for the package boiler shall have a low span of 40 ppm and a high span of 500 ppm.
- The SO<sub>2</sub> monitor shall be certified pursuant to 40 CFR Part 60 and shall be operated and maintained in accordance with the applicable requirements of 40 CFR 60, Appendix B, Performance Specification 2. The RATA test required for the SO<sub>2</sub> monitor shall be performed using EPA Method 6 or 6C of Appendix A of 40 CFR 60. The SO<sub>2</sub> monitor(s) shall be a dual range monitor. The SO<sub>2</sub> monitor(s) for the cogeneration boiler(s) shall have a low span of 20 ppm and a high span of 1500 ppm. The SO<sub>2</sub> monitor for the package boiler shall have a low span of 20 ppm and a high span of 1000 ppm.
- The CO monitor shall be certified and operated in accordance with the following requirements. The CO monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4. The RATA tests required for the CO monitor shall be performed using EPA Method 10, of Appendix A of 40 CFR 60. The CO monitor shall be a dual range monitor. The span for the lower range shall not be greater than 500 ppm, and the span for the upper range shall not be greater than 10,000 ppm.
- Quality assurance procedures for all monitors shall conform to the requirements of 40 CFR 60, Appendix F.

**SECTION IV.**  
**APPENDIX XS - CEMS EXCESS EMISSIONS REPORT**

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1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey 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.
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.
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.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
  - a. Have access to and copy 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.

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.

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.

**SECTION IV.**  
**APPENDIX XS - CEMS EXCESS EMISSIONS REPORT**

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10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 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.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit modification incorporates determinations for:
  - (X) Determination of Best Available Control Technology (BACT)
  - (X) Determination of Maximum Available Control Technology (MACT)
  - (X) Determination of Prevention of Significant Deterioration (PSD)
  - (X) Compliance with New Source Performance Standards (NSPS)
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:
    - The date, exact place, and time of sampling or measurements;
    - The person responsible for performing the sampling or measurements;
    - The dates analyses were performed;
    - The person responsible for performing the analyses;
    - The analytical techniques or methods used; and
    - The results of such analyses.
15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law, which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

**APPENDIX GC**  
**GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]**

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- 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.

**APPENDIX GC**  
**GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]**

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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 (X)
  - b) Determination of Prevention of Significant Deterioration (X); and
  - c) Compliance with New Source Performance Standards (X).
- 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.

**SENDER: COMPLETE THIS SECTION**

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

## 1. Article Addressed to:

Mr. Carlos Rionda  
General Manager  
Palm Beach Power Corporation  
P. O. Box 606  
Pahokee, FL 33476

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly)

B. Date of Delivery

1-23-03

C. Signature

X

☒ Agent☐ Addressee

D. Is delivery address different from item 1?

☐ Yes

If YES, enter delivery address below:

☐ No

## 3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

7001 0320 0001 3692 7164

PS Form 3811, July 1999

Domestic Return Receipt

102595-00-M-0952

**U.S. Postal Service****CERTIFIED MAIL RECEIPT**

(Domestic Mail Only; No Insurance Coverage Provided)

7001 0320 0001 3692 7164

OFFICIAL USE

Postage \$

Certified Fee

Return Receipt Fee  
(Endorsement Required)Restricted Delivery Fee  
(Endorsement Required)

Total Postage &amp; Fees \$

Postmark  
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Sent To

Carlos Rionda

Street, Apt. No.,  
or P.O. Box No.

P.O. Box 606

City, State, ZIP+4

Pahokee, FL 33476

PS Form 3800, January 2001

See Reverse for Instructions