



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

December 18, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Martin J. Drango, Plant Manager  
Florida Power Corporation  
P.O. Box 368  
Intercession City, FL 33848

Re: Project No. 0970014-006-AC  
Draft Permit No. PSD-FL-268A  
Draft PSD Permit Modification for the Intercession City Plant


Dear Mr. Drango:

Enclosed is one copy of the Draft Permit to revise conditions in the original PSD air construction permit for gas turbine Units P12-P14 at the Intercession City Plant located in Osceola County, Florida. Minor revisions were made to the heat input rates, NOx mass emission limits, NOx averaging period, data exclusion conditions, and CEMS requirements as well as other miscellaneous changes. The Department's "Technical Evaluation and Preliminary Determination", "Intent to Issue Permit", and the "Public Notice of Intent to Issue Permit" are also included.

The "Public Notice of Intent to Issue 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 the Administrator of the New Source Review Section, A. A. Linero, at the above letterhead address. If you have any other questions, please contact Jeff Koerner at 850/921-9536.

Sincerely,

  
A. A. Linero, Chief  
Bureau of Air Regulation

CHF/AAL/jfk

Enclosures

"More Protection, Less Process"

Printed on recycled paper.

In the Matter of an  
Application for Air Permit by:

Florida Power Corporation  
P.O. Box 368  
Intercession City, FL 33848

Project No. 0970014-006-AC  
Draft Permit No. PSD-FL-268A  
Intercession City Plant  
Hillsborough County, Florida

*Authorized Representative:*

Mr. Martin J. Drango, Plant Manager

### 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 as detailed in the application and the enclosed Technical Evaluation and Preliminary Determination, for the reasons stated below. The applicant, Florida Power Corporation, applied on November 26, 2001 to the Department for a permit to revise conditions in the original PSD air construction permit for three simple cycle gas turbines located at the Intercession City Plant in Osceola County. The changes are not subject to PSD.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4, 62-210, and 62-212 of the Florida Administrative Code (F.A.C.). The above actions are not exempt from permitting procedures. The Department has determined that an air construction permit is required to perform proposed work. The Department intends to issue this air construction permit based on the belief that the applicant has provided reasonable assurances to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

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

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

The Department will accept written comments and requests for public meetings concerning the proposed permit issuance action for a period of thirty (30) days from the date of publication of the Public Notice of Intent to Issue Air Permit. Written comments and requests for public meetings should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit 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, F.S. 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 (14) 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), F.S. must be filed within fourteen (14) days of publication of the public notice or within fourteen (14) days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), F.S., however, any person who asked the Department for notice of agency action may file a petition within fourteen (14) 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, F.A.C.

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, F.A.C.

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.

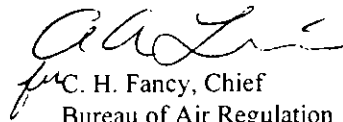
In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under section 120.542, F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal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

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

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

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

Executed in Tallahassee, Florida.

  
C. H. Fancy, Chief  
Bureau of Air Regulation

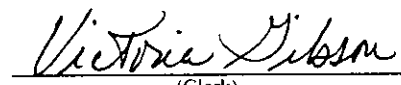
#### CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Intent to Issue Air Construction Permit package (including the Public Notice of Intent to Issue Air Construction Permit, Technical Evaluation and Preliminary Determination, and the Draft Permit) was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 12/19/01 to the persons listed:

Mr. Martin J. Drango, Florida Power Corp.\*  
Mr. Janie Hunter, Florida Power Corp.  
Mr. Scott Osbourn, ENSR  
Mr. Len Kozlov, DEP - Central District Office  
Mr. Gregg Worley, EPA  
Mr. John Bunyak, NPS

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED**, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

  
(Clerk) 12/19/01  
(Date)

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

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Florida Power Corporation  
Intercession City Power Plant  
Project No. 0970014-006-AC  
Draft Permit PSD-FL-268A

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to the Florida Power Corporation to make minor modifications to the original PSD air construction permit for three simple cycle gas turbines installed at the Intercession City Power Plant. This plant is located in Osceola County approximately 3.5 miles west of Intercession City. The address is 6525 Osceola Polk County Line Road, Intercession City, Florida 33848. The applicant's authorized representative is Mr. Martin J. Drango, the Plant Manager. The applicant's mailing address is P.O. Box 368, Intercession City, FL 33848.

The original PSD permit authorized installation of three new simple cycle gas turbines at the Intercession city plant. The applicant requested changes to the original permit, primarily for a slight increase in the heat input rates and to clarify NOx compliance monitoring requirements. The heat input rates and NOx mass emission rates would increase by less than 3% of the current values. The draft permit authorizes these increases as well as the following changes: Revises the averaging period for CEMS-based NOx standards from a 3-hour rolling average to a 24-hour block average to accommodate multiple startups and fuel switching at this plant; clarify the continuous NOx monitoring conditions including the allowance for data exclusion; reduce the minimum observation period for compliance visible emissions test from 60 to 30 minutes; and clarify that the plant may provide the analysis of the fuel sulfur content for distillate oil shipments in addition to an analysis from the fuel vendor.

Because the existing plant is a PSD-major source of air pollution, new projects are subject to the preconstruction review requirements for the Prevention of Significant Deterioration (PSD) of Air Quality in Rule 62-212.400, F.A.C. The proposed changes result in increased annual emissions of 6 tons of NOx per year and 2 tons of SO2 per year. Annual emissions of other pollutants are not predicted to increase. These levels are well below the PSD significant emission rates defined in Table 62-212.400, F.A.C. Therefore, the project is not subject to PSD.

The Department will issue the Final Permit with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions. The Department will accept written comments and requests for public meetings concerning the proposed permit issuance action for a period of thirty (30) days from the date of publication of this Public Notice of Intent to Issue Air Construction Permit. Written comments and requests for public meetings should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit 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, F.S. 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 (14) 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), F.S. must be filed within fourteen (14) days of publication of the public notice or within fourteen (14) days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), F.S., 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, F.A.C.

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

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, F.A.C.

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

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

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

Department of Environmental Protection  
Central District Office  
Air Resource Section  
3319 Maguire Boulevard, Suite 232  
Orlando, Florida 32803-3767  
Telephone: 407/894-7555  
Fax: 407/897-2966

The complete project file includes the application, Technical Evaluation and Preliminary Determination, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under section 403.111, F.S. Interested persons may contact the Department's reviewing engineer for this project, at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information.

**TECHNICAL EVALUATION  
&  
PRELIMINARY DETERMINATION**

**PROJECT**

Project No. 0970014-006-AC  
Draft Air Permit No. PSD-FL-268A  
Minor Modifications of Heat Input Increase and CEMS Requirements  
(Emissions Unit No. 018, 019, and 020)

**COUNTY**

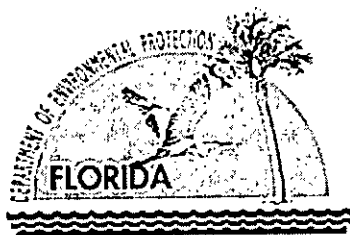
Osceola County

**APPLICANT**

Florida Power  
Intercession City Plant  
ARMS Facility ID No. 0970014

**PERMITTING  
AUTHORITY**

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



December 18, 2001

{Filename: 268A TEPD.doc}

### 3. PROJECT REVIEW

#### Request for Increase in Heat Input

The applicant requests increases of the heat input rates for Units P12-P14 from 885 to 905 MMBtu for gas firing and from 954 to 978 MMBtu for oil firing. This represents less than a 3% increase in the permitted capacity of the units. The applicant claims the upgrades will optimize unit efficiency and increase power generation. The minor changes do not trigger additional PSD review. The draft permit revises the heat input rates as requested.

#### Request for Change NO<sub>x</sub> Emissions Standards

Due to the slightly high heat input rates, the applicant requests increases in the NO<sub>x</sub> emissions standards from 32.0 to 33.0 lb/hour for gas firing and from 167.0 to 169.0 lb/hour for oil firing. Again these changes are minimal and do not trigger additional PSD review. The draft permit includes these revised standards as well as the following changes:

- The CEMS-based NO<sub>x</sub> standards were revised from a 3-hour rolling average to a 24-hour average of actual operating hours. This is consistent with similar permits recently issued for simple cycle gas turbine projects and simplifies the compliance determination for days with multiple startups and fuel switches.
- A 1-hour emissions average that includes any amount of oil firing shall only be included in the compliance average for oil firing. This clarifies the existing condition and simplifies the compliance determination.
- Specific CEMS requirements for performance specifications, data collection, compliance averages, data exclusions, reporting, and monitor availability were revised and clarified.

#### Request for Revised NO<sub>x</sub> Emissions Data Exclusion

As previously mentioned, the applicant requested clarified conditions regarding excluded NO<sub>x</sub> CEMS emissions data and provided excess emissions reports and supporting emissions data. Based on a review of the data, the draft permit includes the following changes:

- No more than 1 hourly emission rate value due to startup shall be excluded per cycle. No more than 1 hourly emission rate value due to shutdown shall be excluded per cycle. No more than 2 hourly emission rate values shall be excluded in a 24-hour period due to malfunction. No more than 4 hourly emission rate values shall be excluded in a 24-hour period due to all startups, shutdowns, and malfunctions. Note: A fuel-switch is not considered "startup".
- Hourly emissions data during major tuning sessions may be excluded from the compliance determinations. Data excluded due to tuning shall not count towards the limit on total excluded data in a 24-hour period. As an example, a major tuning session would occur after a combustor change-out. A tuning session may take a several hours each day over a few days. No more than two major tuning sessions would be expected during any year. Major tuning sessions are intended to return the unit to manufacturer's specifications for efficient operation and should result in lower actual emissions.
- Excluded data must be summarized in the quarterly reports.

#### Other Requests

The draft permit also includes the following minor changes:

- The current permit includes the following condition: "Operation below 50% of base load shall be limited to two (2) hours during any 24-hour period (day)." The draft permit revises this to, "Excluding startup and shutdown, operation below 50% base load is prohibited." The revision achieves the original intent, which was to limit low load operation.
- The current permit includes the following condition, "Each unit shall be capable of accommodating either fuel." The draft permit revises this to, "Each unit shall be capable of firing natural gas." The revision achieves the original intent, which was to encourage use of the lowest emitting fuel.



## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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- The draft permit removes the “initial CO limit” that was specified for the first 12 months of operation. This period is over and the condition is no longer applicable.
- The minimum observation period for a compliance visible emissions tests was revised from 60 to 30 minutes. This is consistent with Rule 62-297.310(4)(a)2, F.A.C., which only requires a 60 minute test for emissions units that emit more than 100 tons per year of particulate matter, have a multiple opacity standard, or are required to test by rule.
- The draft permit requires the permittee to conduct initial tests after completing the upgrade.
- The draft permit was clarified to allow the facility to provide an oil analyses to demonstrate compliance with the fuel sulfur limit in addition to the fuel vendor.
- The monitoring requirements for compliance with the natural gas fuel specification were simplified to acid rain requirements in 40 CFR 75 Appendix D.

#### 4. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the specific conditions of the draft permit. Jeff Koerner is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the Department's Bureau of Air Regulation at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

# DRAFT PERMIT

## PERMITTEE:

Florida Power Corporation  
P.O. Box 368  
Intercession City, FL 33848

*Authorized Representative:*

Mr. Martin J. Drango, Plant Manager

Project No. 0970014-006-AC PSD Permit No. PSD-FL-268A Facility ID No. 0970014 SIC No. 4911 Expires: December 1, 2002
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## PROJECT AND LOCATION

This permit is issued pursuant to the requirements for the Prevention of Significant Deterioration of Air Quality (PSD Permit). This existing facility is an electric power generating plant with a nominal capacity of 1170 MW. The proposed project will add three simple cycle, dual-fuel, General Electric Model 7EA combustion turbines with electrical generator sets each having a maximum capacity of 91 MW.

The project will be located at the existing FPC Intercession City Plant in Osceola County approximately 3.5 miles west of Intercession City. The address is 6525 Osceola Polk County Line Road, Intercession City, Florida 33848. The UTM coordinates are Zone 17, 446.3 km E, 3126.0 km N and the map coordinates are Latitude 28° 15' 38", Longitude 81° 32' 51".

## STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.) and 40 CFR 52.21. The permittee is authorized to install the proposed equipment in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department.

## APPENDICES

The following Appendices are attached as part of this permit.

- Appendix A - Terminology
- Appendix BD - Department's BACT Determination
- Appendix GC - Construction Permit General Conditions
- Appendix GG - NSPS Subpart GG Requirements for Gas Turbines
- Appendix XS - CEMS Excess Emissions Report

(DRAFT)

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

Date: \_\_\_\_\_

# DRAFT PERMIT

## PERMITTEE:

Florida Power Corporation  
P.O. Box 368  
Intercession City, FL 33848

*Authorized Representative:*

Mr. Martin J. Drango, Plant Manager

Project No. 0970014-006-AC PSD Permit No. PSD-FL-268A Facility ID No. 0970014 SIC No. 4911 Expires: December 1, 2002
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## PROJECT AND LOCATION

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The project will be located at the existing FPC Intercession City Plant in Osceola County approximately 3.5 miles west of Intercession City. The address is 6525 Osceola Polk County Line Road, Intercession City, Florida 33848. The UTM coordinates are Zone 17, 446.3 km E, 3126.0 km N and the map coordinates are Latitude 28° 15' 38", Longitude 81° 32' 51".

## STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.) and 40 CFR 52.21. The permittee is authorized to install the proposed equipment in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department.

## APPENDICES

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- Appendix A - Terminology
- Appendix BD - Department's BACT Determination
- Appendix GC - Construction Permit General Conditions
- Appendix GG - NSPS Subpart GG Requirements for Gas Turbines
- Appendix XS - CEMS Excess Emissions Report

(DRAFT)

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

Date: \_\_\_\_\_

## SECTION I. FACILITY INFORMATION (DRAFT)

### FACILITY DESCRIPTION

The existing facility is an electric power generating plant consisting of fourteen combustion turbine peaking units (P1-P14). Units P1-P6 each consist of two gas turbines having a combined capacity of 56.7 MW and firing No. 2 distillate oil. Units P7-P10 each consist of a General Electric Model 7EA gas turbine having an capacity of 96.3 MW and firing natural gas or distillate oil. Unit P11 is a Siemens Model V84.3 having an capacity of 171 MW and firing distillate oil. Units P12-P14 each consist of a General Electric Model 7EA gas turbine with a nominal generating capacity of 91 MW when firing natural gas or distillate oil

### PROPOSED PROJECT

The proposed project affects the following newly constructed emissions units.

ARMS ID No.	EMISSION UNIT DESCRIPTION
018 019 020	<b>Peaking Units P12, P13, and P14:</b> Each peaking unit consists of a General Electric Model No. PG7121 7EA dual-fuel simple cycle combustion turbine with electrical generator set having a nominal power production output of <u>91</u> MW. The units may employ an evaporative cooling system. Dry low-NOx (DLN) combustion technology will be used to control nitrogen oxide emissions when firing the primary fuel of pipeline natural gas. Water injection will be used to control nitrogen oxide emissions when firing the backup fuel of low sulfur distillate oil.

The proposed project modifies original air permit No. PSD-FL-268 to: increase the maximum heat inputs and nominal power production for both gas and oil firing; revise the NOx compliance averaging period from a 3-hour rolling average to a 24-hour block average of actual operating hours; clarify the permit conditions regarding data exclusion for the NOx continuous emissions monitoring system; and correct the minimum observation period for a compliance visible emissions test. The permittee is allowed to perform the minor upgrades on each existing gas turbine (P12-P14) to achieve the capacity increases. No other construction or modification is authorized.

### REGULATORY CLASSIFICATION

The facility is a "major facility" with respect to Rule 62-212.400, Prevention of Significant Deterioration (PSD) of Air Quality because emissions of at least one pollutant exceed 250 tons per year. Therefore, each modification to this facility resulting in emissions increases greater than the Significant Emissions Rates specified in Table 62-212.400-2 also requires a PSD review and Best Available Control Technology (BACT) determination. For this project, emissions of CO, NOx, PM/PM<sub>10</sub>, and SAM/SO<sub>2</sub> are significant and this permit establishes the Best Available Control Technology (BACT) for each pollutant.

The facility is not believed to be a Title III major source of hazardous air pollutants. The facility and project are subject to the applicable Title IV acid rain provisions. The facility is classified as a Title V "major" source of air pollution because emissions of at least one regulated air pollutant, such as CO, NOx, PM/PM<sub>10</sub>, SO<sub>2</sub>, and/or VOC exceeds 100 tons per year.

This project is subject to regulation under the New Source Performance Standards (NSPS), 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines.

### RELEVANT DOCUMENTS

- Application received 11/26/01 and all related correspondence.
- Original air permit No. PSD-FL-268 issued 12/9/99.

## SECTION II. ADMINISTRATIVE REQUIREMENTS (DRAFT)

### GENERAL AND ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: All documents related to applications for permits to construct, operate or modify an emissions unit should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (DEP), at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 and phone number 850/488-0114.
2. Compliance Authority: All documents related compliance activities such as reports, tests, and notifications should be submitted to the Central District Office, Florida Department of Environmental Protection, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767. The phone number is 407/894-7555 and the fax number is 407/897-2966.
3. Terminology: The terms used in this permit have specific meanings as defined in the applicable chapters of the Florida Administrative Code. *Appendix A* lists frequently used abbreviations and explains the format used to cite rules and regulations in this permit.
4. 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.]
5. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit 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, 62-17, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.); and the Title 40, Parts 52, 60, 72, 73, and 75 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 facility owner or operator from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
6. 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. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. [40 CFR 52.21(r)(2)]
7. Permit Expiration: For good cause, the permittee may request that this PSD air construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation at least sixty (60) days prior to the expiration of this permit. [Rules 62-4.070(4), 62-4.080, and 62-210.300(1), F.A.C.]
8. 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 determination of Best Available Control Technology (BACT) for the source. [Rule 62-212.400(6)(b), F.A.C. and 40 CFR 52.166(j)(4)]
9. 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.]
10. 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.]

**SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)**

This permit addresses the following new emissions units.

ARMS EU ID No.	EMISSION UNIT DESCRIPTION
018 019 020	<b>Peaking Units P12, P13, and P14:</b> This permit authorizes the installation of three new peaking gas turbines. Each gas turbine consists of a General Electric Model No. PG7121 (7EA) dual-fuel, simple-cycle combustion turbine with electrical generator set. Each unit has a nominal power production capacity of <u>91</u> MW. The new units may employ an evaporative cooling system and will use the existing infrastructure including natural gas connections, oil storage and auxiliary equipment. Dry low-NOx (DLN) combustion technology will control nitrogen oxide emissions when firing the primary fuel of pipeline natural gas. Water injection will control NOx emissions when firing low sulfur distillate oil as a backup fuel. Combustion design and clean fuels will minimize emissions of CO, PM/PM <sub>10</sub> , SAM, SO <sub>2</sub> , and VOC. Exhaust gases from each combustion turbine will exit a 56 feet high stack at approximately 1000°F with a volumetric flow rate of 1,436,000 acfm.

**APPLICABLE STANDARDS AND REGULATIONS**

1. **BACT Determinations:** This emissions unit is subject to Best Available Control Technology (BACT) determinations for carbon monoxide (CO), nitrogen oxides (NOx), particulate matter (PM/PM<sub>10</sub>), sulfuric acid mist (SAM), and sulfur dioxide (SO<sub>2</sub>). [Rule 62-212.400(BACT), F.A.C.]
2. **NSPS Requirements:** Each combustion turbine shall comply with all applicable requirements of 40 CFR 60, adopted by reference in Rule 62-204.800(7)(b), F.A.C.
  - (a) **Subpart A, General Provisions**, including:
    - 40 CFR 60.7, Notification and Record Keeping
    - 40 CFR 60.8, Performance Tests
    - 40 CFR 60.11, Compliance with Standards and Maintenance Requirements
    - 40 CFR 60.12, Circumvention
    - 40 CFR 60.13, Monitoring Requirements
    - 40 CFR 60.19, General Notification and Reporting Requirements
  - (b) **Subpart GG, Standards of Performance for Stationary Gas Turbines**, identified in *Appendix GG* of this permit. These provisions include a requirement to correct test data to ISO conditions; however, such correction is not used for compliance determinations with the BACT standards.

**PERFORMANCE RESTRICTIONS**

3. **Permitted Capacity:** Each combustion turbine shall operate only in simple-cycle mode and generate a nominal 91 MW of electrical power. Operation of each unit shall not exceed 905 mmBTU per hour of heat input from firing natural gas or 978 mmBTU per hour of heat input from firing low sulfur distillate oil. Excluding startup and shutdown, operation below 50% base load is prohibited. The maximum heat inputs are based on the lower heating value (LHV) of each fuel, an inlet air temperature of 59°F, a relative humidity of 60%, an ambient air pressure of 14.7 psi, and 100% of base load. Therefore, heat input rates will vary depending upon ambient conditions and the combustion turbine characteristics. Compliance shall be determined by data compiled from the Speedtronic™ Control System adjusted for these parameters. Manufacturer's performance curves, corrected for site conditions or equations for correction to other ambient conditions, shall be provided to the Permitting and Compliance Authorities within 45 days of completing the initial compliance testing. Initial compliance with this requirement

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

may be demonstrated by compiling data during the initial NSPS tests performed at various load conditions. [Design, Rule 62-210.200(PTE), F.A.C.]

4. **Simple Cycle Operation Only:** The combustion turbines shall operate only in simple cycle mode. This requirement is based on the permittee's request, which formed the basis of the NOx BACT determination and resulted in the emission standards specified in this permit. Specifically, the NOx BACT determination eliminated several control alternatives based on technical considerations and costs due to the elevated temperatures of the exhaust gas. Any request to convert these units to combined cycle operation by installing a new heat recovery steam generator or connecting to an existing heat recovery steam generator shall require the permittee to perform a new, current NOx BACT analysis and the approval of the Department through a permit modification. The results of this analysis may validate the initial BACT determination or result in the submittal of a full PSD permit application, new control equipment, and new emissions standards. [Rule 62-212.400(6)(b), F.A.C.]
5. **Allowable Fuels:** Each combustion turbine shall be fired by pipeline natural gas containing no more than 1 grain of sulfur per 100 dry standard cubic feet of gas. As a backup fuel, each combustion turbine may be fired with No. 2 distillate oil (or a superior grade) containing no more than 0.05% sulfur by weight. Each unit shall be capable of firing natural gas. Compliance with the limits on fuel sulfur content shall be demonstrated by the record keeping requirements and/or the conditions of the Alternate Monitoring Plan specified in this permit. It is noted that these limitations are much more stringent than the NSPS sulfur dioxide limitation and assure compliance with 40 CFR 60.333 and 60.334. [Applicant Request, Rule 62-210.200(PTE), F.A.C.]
6. **Hours of Operation:** The following limits apply to this group of three combustion turbines.
  - (a) **Installation of One Gas Turbine:** When one gas turbine is installed, the total turbine operating hours shall not exceed 3390 hours during any consecutive 12 months.
  - (b) **Installation of Two Gas Turbines:** When two gas turbines are installed, the total turbine operating hours shall not exceed 6780 hours during any consecutive 12 months.
  - (c) **Installation of Three Gas Turbines:** When all three gas turbines are installed, the total turbine operating hours shall not exceed 10,170 hours during any consecutive 12 months.
  - (d) **Oil Firing:** Each gas turbine is limited to no more than 1000 turbine operating hours of oil firing during any consecutive 12 months. In addition, the group of three gas turbines is limited to no more than 2500 turbine operating hours of oil firing during any consecutive 12 months.

Total turbine operating hours are the sum of operating hours when firing gas and operating hours when firing oil. The permittee shall install, calibrate, operate and maintain meters to measure and accumulate the amount of each fuel fired and hours of operation for each combustion turbine. [Applicant Request; Rules 62-212.400(BACT) and 62-210.200(PTE), F.A.C.]
7. **Operating Procedures:** The Best Available Control Technology (BACT) determinations established by this permit rely on "good operating practices" to minimize emissions. Therefore, all operators and supervisors shall be properly trained to operate and maintain the combustion turbines and pollution control devices in accordance with the guidelines and procedures established by each equipment manufacturer. The training shall include good operating practices as well as methods of minimizing excess emissions. [Applicant Request; Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]
8. **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 owner or operator shall notify the Compliance Authority as soon as possible, but at least within one (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

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problem; the 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 and the regulations. [Rule 62-4.130, F.A.C.]

#### EMISSIONS CONTROLS

9. Automated Control System: In accordance with the manufacturer's recommendations, the permittee shall install, calibrate, tune, operate, and maintain the General Electric Speedtronic™ Gas Turbine Control System for each unit. Each system shall be designed and operated to monitor and control the gas turbine combustion process and operating parameters including, but not limited to: fuel distribution and staging, turbine speed, load conditions, combustion temperatures, water injection, and fully automated startup, shutdown, and cool-down. [Design; Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]
10. Combustion Controls: The permittee shall employ "good operating practices" in accordance with the manufacturer's recommended operating procedures to control CO, NO<sub>x</sub>, and VOC emissions. Prior to the initial emissions performance tests, the dry low-NO<sub>x</sub> (DLN) combustors and Speedtronic™ control system on each gas turbine shall be tuned to optimize the reduction of CO, NO<sub>x</sub>, and VOC emissions. Thereafter, these systems shall be maintained and tuned, as necessary, to minimize pollutant emissions. [Design, Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]
11. DLN Combustion Technology: To control NO<sub>x</sub> emissions when firing natural gas, the permittee shall install, tune, operate and maintain a dry low-NO<sub>x</sub> (DLN) combustion system for each combustion turbine in accordance with the manufacturer's recommendations. The permittee shall provide manufacturer's emissions performance versus load diagrams for the specific DLN system as part of the Title V permit application. Compliance with this requirement may be demonstrated by compiling data during the initial NSPS tests performed at various load conditions. [Design, Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]
12. Water Injection: To control NO<sub>x</sub> emissions when firing low sulfur distillate oil, the permittee shall install, calibrate and operate an automated water injection system for each combustion turbine in accordance with the manufacturer's recommendations. Each water injection system shall be maintained and adjusted to minimize NO<sub>x</sub> emissions. The permittee shall provide manufacturer's emissions performance versus load diagrams for the specific water injection system as part of the Title V permit application. Compliance with this requirement may be demonstrated by compiling data during the initial NSPS tests performed at various load conditions. [Design, Rules 62-4.070(3) and 62-212.400(BACT), 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. 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.]



**SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)**

**EMISSIONS STANDARDS**

15. Emissions Standards Summary: The following table summarizes the emissions standards specified in this permit.

<i>EU-018, 019, and 020: GE Model 7EA Combustion Turbines (P12, P13, and P14)</i>		
<b>Pollutant</b>	<b>Fuels and Controls<sup>a</sup></b>	<b>Emission Standards<sup>b</sup></b>
CO	Gas Firing W/DLN	20.0 ppmvd @ 15% O <sub>2</sub> , 3-hour test avg. 43.0 pounds per hour, 3-hour test avg.
	Oil Firing W/Wet Injection	20.0 ppmvd @ 15% O <sub>2</sub> , 3-hour test avg. 44.0 pounds per hour, 3-hour test avg.
NOx	Gas Firing W/DLN Compliance by Annual Testing at Base Load	9.0 ppmvd @ 15% O <sub>2</sub> , 3-hour test avg. 33.0 pounds per hour, 3-hour test avg.
	Continuous Compliance by CEM	10.0 ppmvd @ 15% O <sub>2</sub> , 24-hour avg.
	Oil Firing W/Wet Injection Compliance by Annual Testing at Base Load	42.0 ppmvd @ 15% O <sub>2</sub> , 3-hour test avg. 169.0 pounds per hour, 3-hour test avg.
	Continuous Compliance by CEM	42.0 ppmvd @ 15% O <sub>2</sub> , 24-hour avg.
PM/PM <sub>10</sub>	Fuel Sulfur Specifications and Combustion Design	Visible emissions ≤ 10% opacity (PM estimated at 0.002 grains/dscf)
SAM/SO <sub>2</sub>	Natural Gas Sulfur Specification	≤ 1 grain per 100 SCF of gas
	Low Sulfur Distillate Oil Sulfur Specification	0.05% sulfur by weight
VOC	Gas Firing W/Combustion Design	2.0 ppmvw as methane 2.0 pounds per hour
	Oil Firing W/Combustion Design	4.0 ppmvw as methane 5.0 pounds per hour

<sup>a</sup> Oil firing is limited to 1000 hours per year per gas turbine and 2500 hours per year for all three gas turbines combined. DLN means dry low-NOx controls.

<sup>b</sup> The mass emission limits (pounds per hour) were based on 100% base load, 59° F, and 60% relative humidity.

[Design, Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

16. Carbon Monoxide (CO)

- (a) **Gas Firing:** When firing natural gas in a combustion turbine, CO emissions shall not exceed 43.0 pounds per hour nor 20.0 ppmvd corrected to 15% oxygen based on a 3-hour test average.
- (b) **Oil Firing:** When firing low sulfur distillate oil in a combustion turbine, CO emissions shall not exceed 44.0 pounds per hour nor 20.0 ppmvd based on a 3-hour test average.

The permittee shall demonstrate compliance with these standards by conducting tests in accordance with EPA Method 10 and the performance testing requirements of this permit. [Design; Rule 62-212.400(BACT), F.A.C.]

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

#### 17. Nitrogen Oxides (NOx)

- (a) **Gas Firing:** When firing natural gas in a combustion turbine, NOx emissions shall not exceed 33.0 pounds per hour nor 9.0 ppmvd corrected to 15% oxygen based on an annual 3-hour compliance test average. In addition, NOx emissions shall not exceed 10.0 ppmvd corrected to 15% oxygen based on a 24-hour block average of all valid data collected from the continuous NOx emissions monitor during actual operation.
- (b) **Oil Firing:** When firing low sulfur distillate oil in a combustion turbine, NOx emissions shall not exceed 169.0 pounds per hour nor 42.0 ppmvd corrected to 15% oxygen based on an annual 3-hour compliance test average. In addition, NOx emissions shall not exceed 42.0 ppmvd corrected to 15% oxygen based on a 24-hour block average of all valid data collected from the continuous NOx emissions monitor during actual operation. The permittee shall set up the automated control system for water injection to reduce NOx emissions below 42.0 ppmvd corrected to 15% oxygen.

NOx emissions are defined as emissions of oxides of nitrogen measured as NO<sub>2</sub>. The permittee shall demonstrate compliance by conducting tests in accordance with EPA Methods 7E, 20 and the performance testing requirements of this permit. Compliance with the 24-hour block averages shall be demonstrated by collecting and reporting data in accordance with the conditions for the NOx continuous emissions monitor specified by this permit. [Rule 62-212.400(BACT), F.A.C.]

#### 18. Particulate Matter (PM/PM<sub>10</sub>), Sulfuric Acid Mist (SAM) and Sulfur Dioxides (SO<sub>2</sub>)

- (a) **Fuel Specifications:** Emissions of PM, PM<sub>10</sub>, SAM, and SO<sub>2</sub> shall be limited by the good combustion techniques and the fuel sulfur limitations specified in this permit. The permittee shall demonstrate compliance with the fuel sulfur limits by maintaining records of the sampling and analysis required by this permit and/or as specified in the provisions of the Alternate Monitoring Plan. [Rule 62-212.400(BACT), F.A.C.]
- (b) **VE Standard:** As a surrogate for PM/PM<sub>10</sub> emissions, visible emissions from the operation of a combustion turbine shall not exceed 10% opacity, based on a 6-minute average. The permittee shall demonstrate compliance with this standard by conducting tests in accordance with EPA Method 9 and the performance testing requirements of this permit. [Rule 62-212.400(BACT), F.A.C.]

#### 19. Volatile Organic Compounds (VOC)

- (a) **Gas Firing:** When firing natural gas in a combustion turbine, VOC emissions shall not exceed 2.0 pounds per hour nor 2.0 ppmvd based on a 3-hour test average.
- (b) **Oil Firing:** When firing low sulfur distillate oil in a combustion turbine, VOC emissions shall not exceed 5.0 pounds per hour nor 4.0 ppmvd based on a 3-hour test average.

The VOC emissions shall be measured and reported as methane. The permittee shall demonstrate compliance with these standards by conducting tests in accordance with EPA Methods 18, 25, and/or 25A and the performance testing requirements of this permit. [Application; Design; Rule 62-4.070(3), F.A.C.]

#### STARTUP, SHUTDOWN, AND MALFUNCTION

20. **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. Such preventable emissions shall be included in the

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

calculation of the 24-hour averages compiled by the continuous NOx emissions monitor. [Rule 62-210.700, F.A.C.]

21. Alternate Standards and NOx CEMS Data Exclusion: The following permit conditions establish alternate standards or allow the exclusion of monitoring data for specifically defined periods of startup, shutdown, and documented malfunction of a gas turbine. These conditions apply only if operators employ the best operational practices to minimize the amount and duration of emissions during such episodes.
- (a) Opacity: During startup and shutdown, visible emissions excluding water vapor shall not exceed 20% opacity for up to 2.0 hours in any 24-hour period.
- (b) NOx CEMS Data Exclusion: For the following identified operational periods, 1-hour NOx emissions rate values may be excluded from the 24-hour block compliance averages in accordance with the corresponding requirements.
- (1) Startup, Shutdown, and Malfunction: No more than 1 hourly emission rate value due to startup shall be excluded per cycle. No more than 1 hourly emission rate value due to shutdown shall be excluded per cycle. No more than 2 hourly emission rate values shall be excluded in a 24-hour period due to malfunction. No more than 4 hourly emission rate values shall be excluded in a 24-hour period due to all startups, shutdowns, and malfunctions. Note: A fuel-switch is not considered "startup".
- (2) Tuning: If the permittee provides at least five days advance notice prior to a major tuning session performed by the manufacturer's representative, hourly NOx emissions rate values during tuning may be excluded from the 24-hour block compliance averages. Data excluded due to tuning shall not count towards the limit on total excluded data in a 24-hour period. {Permitting Note: As an example, a major tuning session would occur after a combustor change-out. A tuning session may take a several hours each day over a few days. No more than two major tuning sessions would be expected during any year. Major tuning sessions are intended to return the unit to manufacturer's specifications for efficient operation and should result in lower actual emissions.}

As provided by the authority in Rule 62-210.700(5), F.A.C., the above requirements are established in lieu of the provisions of Rule 62-210.700(1), F.A.C. [Design; Rules 62-210.700(5), 62-4.130, and Rule 62-212.400(BACT), F.A.C.]

#### EMISSIONS PERFORMANCE TESTING

22. Combustion Turbine Testing Capacity: Testing of emissions shall be conducted with the combustion turbine operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum heat input rate allowed by the permit, corrected for the average air inlet air temperature during the test (with 100 percent represented by a curve depicting heat input vs. air inlet temperature). If it is impracticable to test at permitted capacity, the source may be tested at less than permitted capacity. However, subsequent operation is limited by adjusting the entire heat input vs. air inlet temperature curve downward by an increment equal to the difference between the maximum permitted heat input (corrected for inlet temperature) and 110 percent of the value reached during the test 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 purposes of additional compliance testing to regain the permitted capacity. Emissions performance tests shall meet all applicable requirements of Chapters 62-204 and 62-297, F.A.C. [Rule 62-297.310(2), F.A.C.]

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

23. **Calculation of Emission Rate:** 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.]
24. **Applicable Test Procedures**
- (a) **Required Sampling Time.**
1. 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. [Rule 62-297.310(4)(a)1, F.A.C.]
  2. The minimum observation period for a visible emissions compliance test shall be thirty (30) 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)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.]
- (d) **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.]
25. **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.]
26. **Sampling Facilities:** The permittee shall design the combustion turbine stack to accommodate adequate testing and sampling locations in order to determine compliance with the applicable emission limits specified by this permit. Permanent stack sampling facilities shall be installed in accordance with Rule 62-297.310(6), F.A.C. [Rules 62-4.070 and 62-204.800, F.A.C., and 40 CFR 60.40a(b)]
27. **Performance Test Methods:** Compliance tests shall be performed in accordance with the following reference methods as described in 40 CFR 60, Appendix A, and adopted by reference in Chapter 62-204.800, F.A.C.
- (a) **EPA Method 7E**, "Determination of Nitrogen Oxide Emissions from Stationary Sources".
  - (b) **EPA Method 9**, "Visual Determination of the Opacity of Emissions from Stationary Sources".
  - (c) **EPA Method 10**, "Determination of Carbon Monoxide Emissions from Stationary Sources". All CO tests shall be conducted concurrently with NOx emissions tests.
  - (d) **EPA Method 20**, "Determination of Oxides of Nitrogen Oxide, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines."

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

(e) **EPA Methods 18, 25 and/or 25A**, "Determination of Volatile Organic Concentrations."

No other test methods may be used for compliance testing unless prior DEP approval is received, in writing, from the DEP Emissions Monitoring Section Administrator in accordance with an alternate sampling procedure pursuant to 62-297.620, F.A.C.

28. **Test Notification:** The permittee shall notify the Compliance Authority in writing at least 30 days prior to initial performance tests and at least 15 days prior to any other required tests. [Rule 62-297.310(7)(a)9, F.A.C.; 40 CFR 60.7 and 60.8]
29. **Initial Tests Required:** Initial compliance with the allowable emission standards specified in this permit shall be determined within 60 days after achieving the maximum permitted capacity, but not later than 180 days after initial operation of the emissions unit. Initial tests for emissions from the combustion turbine shall be conducted for CO, NO<sub>x</sub>, VOC, and visible emissions individually for firing natural gas and for firing low sulfur distillate oil. Initial NO<sub>x</sub> performance test data shall also be converted into the units of the corresponding NSPS Subpart GG emissions standards to demonstrate compliance (see Appendix GG). {Permitting Note: These initial tests are required after completing the minor upgrade to achieve increased heat inputs and power generation.} [Rule 62-297.310(7)(a)1, F.A.C.]
30. **Annual Performance Tests:** Annual emissions performance tests for CO, NO<sub>x</sub>, and visible emissions from each combustion turbine shall be conducted when firing natural gas. If conducted at permitted capacity, the annual NO<sub>x</sub> continuous monitor RATA required pursuant to 40 CFR 75 may be substituted for the annual compliance stack test. An annual performance test for VOC emissions is not required as long as the unit remains in compliance with the CO and visible emissions limits specified by this permit.
- If a combustion turbine operates more than 200 hours of oil firing during any federal fiscal year, the permittee shall schedule and conduct annual emissions performance tests for CO, NO<sub>x</sub>, and visible emissions when firing low sulfur distillate oil. For oil firing, compliance with the NO<sub>x</sub> standards may be determined by the continuous monitor data collected during the required CO test. An annual performance test for VOC emissions is not required as long as the unit remains in compliance with the CO and visible emissions limits specified by this permit for oil firing.
- Tests required on an annual basis shall be conducted at least once during each federal fiscal year (October 1<sup>st</sup> to September 30<sup>th</sup>). [Rule 62-297.310(7)(a)4, F.A.C.]
31. **Tests Prior to Permit Renewal:** Prior to renewing the air operation permit, the permittee shall also conduct emissions performance tests for CO, NO<sub>x</sub>, VOC, and visible emissions when firing natural gas and when firing low sulfur distillate oil. These tests shall be conducted within the 12-month period prior to renewing the air operation permit. For pollutants required to be tested annually, the permittee may submit the most recent annual compliance test to satisfy the requirements of this provision. [Rule 62-297.310(7)(a)3, F.A.C.]
32. **Tests After Substantial Modifications:** All performance tests required for initial startup shall also be conducted after any substantial modification and appropriate shakedown period of air pollution control equipment including the replacement of dry low-NO<sub>x</sub> combustors. Shakedown periods shall not exceed 100 days after re-starting the combustion turbine. [Rule 62-297.310(7)(a)4, F.A.C.]
33. **VE Tests After Shutdown:** Any combustion turbine that does not operate for more than 400 hours per year shall conduct a visible emissions (VE) compliance test once per each five-year period, coinciding with the term of its air operation permit. [Rule 62-297.310(7)(a)8, F.A.C.]

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

34. 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.]

#### CONTINUOUS MONITORING REQUIREMENTS

35. NO<sub>x</sub> CEMS Requirements: For each gas turbine, the permittee shall install, calibrate, maintain, and operate continuous emissions monitors (CEMS) to measure and record emissions of nitrogen oxides (NO<sub>x</sub>) and oxygen (O<sub>2</sub>) in a manner sufficient to demonstrate compliance with the standards of this permit. A monitor for carbon dioxide (CO<sub>2</sub>) may be used in place of the oxygen monitor, but the system shall be capable of correcting the emissions to 15% oxygen.
- (a) **Performance Specifications**. Each monitor shall be installed in a location that will provide emissions measurements representative of actual stack emissions. Each CEMS shall comply with the corresponding performance specifications that identify location, installation, design, performance, and reporting requirements.
- (1) Each NO<sub>x</sub> monitor shall be certified pursuant to 40 CFR Part 75 and shall be operated and maintained in accordance with the applicable requirements of 40 CFR Part 75, Subparts B and C. Record keeping and reporting shall be conducted pursuant to 40 CFR Part 75, Subparts F and G. The RATA tests required for the NO<sub>x</sub> monitor shall be performed using EPA Method 7E or 20 as defined in Appendix A of 40 CFR 60. The NO<sub>x</sub> monitor shall have dual span capability with a low span (gas) no greater than 30 ppmvd corrected to 15% O<sub>2</sub> and a high span (oil) no greater than 200 ppmvd corrected to 15% O<sub>2</sub>.
- (2) Each O<sub>2</sub> (or CO<sub>2</sub>) CEMS shall comply with Performance Specification 3 in Appendix B of 40 CFR 60. The O<sub>2</sub> reference method for the annual RATA shall be EPA Method 3A Appendix A of 40 CFR 60.
- (b) **Data Collection**. Each CEMS shall be designed and operated to sample, analyze, and record emissions data evenly spaced over a 1-hour period during all periods of operation. Each 1-hour average shall be computed using at least one data point in each fifteen minute quadrant of the 1-hour block during which the unit combusted fuel. Notwithstanding this requirement, each 1-hour average shall be computed from at least two data points separated by a minimum of 15 minutes. All valid measurements or data points collected during a 1-hour block shall be used to calculate the 1-hour emission averages. If the NO<sub>x</sub> CEMS measures concentration on a wet basis, the permittee shall use approved methods for correction of measured emissions to a dry basis (0% moisture). The O<sub>2</sub> (or CO<sub>2</sub>) CEMS shall express the 1-hour emission rate values in terms of "percent oxygen by volume". The NO<sub>x</sub> CEMS shall express the 1-hour emission averages in terms of "ppmvd corrected to 15% oxygen".
- (c) **Compliance Averages**. Compliance with the 24-hour block NO<sub>x</sub> emissions standards shall be based on data collected by each required CEMS. The 24-hour block shall start at midnight of each operating day and consist of 24 consecutive 1-hour blocks. For purposes of determining compliance with the emission standards of this permit, missing data shall not be substituted. Instead the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block. If a unit operates continuously throughout the day, the 24-hour block average shall be the average of 24 consecutive 1-hour emission averages. If a unit operates less than 24

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hours during the day, the 24-hour block average shall be the average of the available valid 1-hour emission averages collected during actual operation. If monitoring data is authorized for exclusion (due to startup, shutdown, malfunction, or tuning), the 24-hour block average shall be the average of the remaining valid 1-hour emission averages collected during actual operation. In cases of reduced operation or data exclusion, the compliance average will be based on less than 24, 1-hour emission averages. Upon completion of each 24-hour block, the permittee shall determine separate compliance averages for gas firing and oil firing. A 1-hour emissions average that includes any amount of oil firing shall only be included in the compliance average for oil firing. Upon a request from the Department, the NOx emission rate shall be corrected to ISO conditions to demonstrate compliance with the applicable standards of 40 CFR 60.332.

- (d) **Data Exclusion.** Except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, each CEMS shall record emissions data at all times including episodes of startup, shutdown, and malfunction. Emissions data recorded during periods of startup, shutdown, or malfunction may only be excluded from the compliance averages in accordance with the requirements previously specified in this permit. To the extent practicable, the permittee shall minimize the duration of data excluded for startup, shutdown and malfunctions. Data recorded during startup, shutdown or malfunction shall not be excluded if the episode was caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented. Best operational practices shall be used to minimize hourly emissions that occur during startup, shutdown and malfunction. Emissions of any quantity or duration that occur entirely or in part from poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented, shall be prohibited. Excluded emissions data shall be summarized in the required quarterly report.
- (e) **Reporting:** If a CEMS reports NOx emissions in excess of a standard, the permittee shall notify the Compliance Authority within one working day with a preliminary report of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Compliance Authority may request a written summary report of the incident.
- (f) **Monitor Availability.** Monitor availability shall not be less than 95% in any calendar quarter. In the event 95% availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit.

[Rules 62-204.800, 62-210.700, 62-4.130, 62-4.160(8), F.A.C.; 40 CFR 60.7]

#### COMPLIANCE DEMONSTRATIONS

36. **Records:** Unless otherwise specified, 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 DEP representatives upon request. [Rules 62-4.160(14) and 62-213.440(1)(b)2, F.A.C.]

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#### 37. Fuel Records

- (a) Natural Gas: The permittee shall demonstrate compliance with the SO<sub>2</sub> standard in 40 CFR 60.333 by complying with the requirements in 40 CFR 75 Appendix D.
- (b) Low Sulfur Distillate Oil: For all bulk shipments of low sulfur distillate oil received at this facility, the permittee shall obtain an analysis identifying the sulfur content. An analysis provided by the fuel vendor is acceptable. Methods for determining the sulfur content of the distillate oil shall be ASTM D129-91, D2622-94, or D4294-90 or equivalent methods. Records shall specify the test method used and shall comply with the requirements of 40 CFR 60.335(d).

[Rules 62-4.070(3) and 62-4.160(15), F.A.C.]

#### 38. Alternate Monitoring Plan: Subject to EPA approval, the following alternate monitoring may be used to demonstrate compliance.

- (a) The NO<sub>x</sub> CEM data may be used in lieu of the monitoring system for water-to-fuel ratio and the reporting of excess emissions in accordance with 40 CFR 60.334(c)(1), Subpart GG. Subject to EPA approval, the calibration of the water-to-fuel ratio-monitoring device required in 40 CFR 60.335(c)(2) will be replaced by the 40 CFR 75 certification tests of the NO<sub>x</sub> CEMS.
- (b) The NO<sub>x</sub> CEM data shall be used in lieu of the requirement for reporting excess emissions in accordance with 40 CFR 60.334(c)(1), Subpart GG.
- (c) When requested by the Department, the CEMS emission rates for NO<sub>x</sub> on this unit shall be corrected to ISO conditions to demonstrate compliance with the NO<sub>x</sub> standard established in 40 CFR 60.332.
- (d) A *custom fuel monitoring schedule* pursuant to 40 CFR 75 Appendix D for natural gas may be used in lieu of the daily sampling requirements of 40 CFR 60.334 (b)(2) provided the following conditions are met.
  - (1) The permittee shall apply for an Acid Rain permit within the deadlines specified in 40 CFR 72.30.
  - (2) The permittee shall submit a monitoring plan, certified by signature of the Authorized Representative, that commits to using a primary fuel of pipeline supplied natural gas containing no more than 1 grain of sulfur per 100 SCF of gas pursuant to 40 CFR 75.11(d)(2);
  - (3) Each unit shall be monitored for SO<sub>2</sub> emissions using methods consistent with the requirements of 40 CFR 75 and certified by the U.S. EPA.

This custom fuel-monitoring schedule will only be valid when pipeline natural gas is used as a primary fuel. If the primary fuel for these units is changed to a higher sulfur fuel, SO<sub>2</sub> emissions must be accounted for as required pursuant to 40 CFR 75.11(d).

[40 CFR 60, Subpart GG; Applicant Request]

#### 39. Monthly Operations Summary: By the fifth calendar day of each month, the owner or operator shall record the following information in a written or electronic log summarizing the previous month of operation and the previous 12 months of operation: hours of gas firing; million cubic feet of gas fired; hours of oil firing; and gallons of oil fired. The information shall be recorded for each gas turbine and for the group of three gas turbines. Information may be recorded and stored as an electronic file, but



### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

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must be available for inspection and/or printing at the request of the Compliance Authority. [Rule 62-4.160(15), F.A.C.]

#### REPORTS

40. Emissions Performance Test Reports: A report indicating the results of the required emissions performance tests 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.]
41. Quarterly Excess Emissions Reports: If excess emissions occur due to malfunction, the owner or operator shall notify the Compliance Authority within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Following the NSPS format (40 CFR 60.7, Subpart A) periods of startup, shutdown, malfunction, shall be monitored, recorded, and reported as excess emissions when emission levels exceed the standards specified in this permit. Within thirty (30) days following each calendar quarter, the permittee shall submit a report on any periods of excess emissions that occurred during the previous calendar quarter to the Compliance Authority. This quarterly report shall follow the format provided in Appendix XS of this permit and summarize periods of excluded NOx emissions data. [Rules 62-4.130, 62-204.800, 62-210.700(6), F.A.C., and 40 CFR 60.7]
42. 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.]

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APPENDIX A - TERMINOLOGY

ABBREVIATIONS AND ACRONYMS

°F	- Degrees Fahrenheit
DEP	- State of Florida, Department of Environmental Protection
DARM	- Division of Air Resource Management
EPA	- United States Environmental Protection Agency
F.A.C.	- Florida Administrative Code
F.S.	- Florida Statute
SOA	- Specific Operating Agreement
UTM	- Universal Transverse Mercator
CT	- Combustion Turbine
DB	- Duct Burner
HRSG	- Heat Recovery Steam Generator
DLN	- Dry Low-NOx Combustion Technology
SCR	- Selective Catalytic Reduction
OC	- Oxidation Catalyst Technology for CO Control

RULE CITATIONS

*The following examples illustrate the methods used in this permit to abbreviate and cite the references of rules, regulations, permit numbers, and identification numbers.*

Florida Administrative Code (F.A.C.) Rules:

*Example:* [Rule 62-213.205, F.A.C.]

<i>Where:</i>	62	- refers to Title 62 of the Florida Administrative Code (F.A.C.)
	62-213	- refers to Chapter 62-213, F.A.C.
	62-213.205	- refers to Rule 62-213.205, F.A.C.

Facility Identification (ID) Number:

*Example:* Facility ID No. 099-0001

<i>Where:</i>	099	- 3 digit number indicates that the facility is located in Palm Beach County
	0221	- 4 digit number assigned by state database identifies specific facility

New Permit Numbers:

*Example:* Permit No. 099-2222-001-AC or 099-2222-001-AV

<i>Where:</i>	AC	- identifies permit as an Air Construction Permit
	AV	- identifies permit as a Title V Major Source Air Operation Permit
	099	- 3 digit number indicates that the facility is located in Palm Beach County
	2222	- 4 digit number identifies a specific facility
	001	- 3 digit sequential number identifies a specific permit project

Old Permit Numbers:

*Example:* Permit No. AC50-123456 or AO50-123456

<i>Where:</i>	AC	- identifies permit as an Air Construction Permit
	AO	- identifies permit as an Air Operation Permit
	123456	- 6 digit sequential number identifies a specific permit project

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### APPENDIX GC - CONSTRUCTION PERMIT GENERAL CONDITIONS

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

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

- G.9 In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by

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### APPENDIX GC - CONSTRUCTION PERMIT GENERAL CONDITIONS

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

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**APPENDIX BD - FINAL BACT DETERMINATION**

**Final BACT Determinations**

In accordance with Rule 62-212.400, F.A.C., the Department determined that the following standards represent the Best Available Control Technology (BACT) for the simple cycle gas turbines. The Department's technical review and rationale for the BACT determinations are presented in Technical Evaluation and Preliminary Determination issued concurrently with the draft permit for the original air construction permit (PSD-FL-268).

<i>EU-018, 019, and 020: GE Model 7EA Combustion Turbines (P12, P13, and P14)</i>		
<b>Pollutant</b>	<b>BACT Controls<sup>b</sup></b>	<b>BACT Standard</b>
CO	Gas Firing W/DLN Combustion	20.0 ppmvd @ 15% oxygen and 43.0 pounds per hour
	Oil Firing W/Combustion Design	20.0 ppmvd @ 15% oxygen and 44.0 pounds per hour
NOx	Gas Firing W/DLN Combustion	9.0 ppmvd @ 15% oxygen and 33.0 pounds per hour 10.0 ppmvd @ 15% oxygen by CEM
	Oil Firing W/Wet Injection	42.0 ppmvd @ 15% oxygen and 169.0 pounds per hour 42.0 ppmvd @ 15% oxygen by CEM
PM/PM10	Fuel Sulfur Specifications and Combustion Design	Visible emissions ≤ 10% opacity
SAM <sup>3</sup> /SO <sub>2</sub>	Natural Gas Sulfur Specification	1 grain per 100 SCF of gas
	Low Sulfur Distillate Oil Sulfur Specification	0.05% sulfur by weight
VOC <sup>a</sup>	Gas Firing W/Combustion Design	2.0 ppmvd as methane <sup>a</sup> 2.0 pounds per hour <sup>a</sup>
	Distillate Oil Firing W/Combustion Design	4.0 ppmvd as methane <sup>a</sup> 5.0 pounds per hour <sup>a</sup>

<sup>a</sup> The VOC standards are synthetic PSD-minor limits and not BACT limits.

<sup>b</sup> DLN means dry low-NOx combustion design.

**Revisions and Comments**

The original PSD air construction permit was issued on December 9, 1999 and made the above final BACT determinations. In January of 2002, the Department issued a minor revision to the PSD permit that included a slight increase in the heat input rates for both gas and oil firing. This resulted in the following revisions to the NOx mass emissions standards: from 32.0 to 33.0 lb/hour for gas firing, and from 167.0 to 169.0 lb/hour for oil firing. In addition, the averaging period for the CEMS-based NOx emissions standards were revised from a 3-hour rolling average to a 24-hour block average of the actual operating hours to accommodate the multiple startups and fuel switching that occur at this plant. The BACT controls continue to be DLN combustion for gas firing and wet injection for oil firing. It is also noted that the original PSD air construction permit included a slightly higher CO limit for gas firing that applied during the initial CO performance tests and for the subsequent 12 months of operation. This higher standard was removed during the revision because it was no longer applicable.

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**APPENDIX GG - FEDERAL NEW SOURCE PERFORMANCE STANDARDS (NSPS)**

**40 CFR 60, SUBPART A - NSPS GENERAL PROVISIONS**

This emissions unit is subject to the applicable portions of 40 CFR 60, Subpart A, General Provisions, including:

- 40 CFR 60.7, Notification and Record Keeping
- 40 CFR 60.8, Performance Tests
- 40 CFR 60.11, Compliance with Standards and Maintenance Requirements
- 40 CFR 60.12, Circumvention
- 40 CFR 60.13, Monitoring Requirements
- 40 CFR 60.19, General Notification and Reporting Requirements

For copies of these requirements, please contact the Department's New Source Review Section.

**40 CFR 60, SUBPART GG - STATIONARY GAS TURBINES**

This emissions unit is subject to 40 CFR 60, Subpart GG for stationary gas turbines adopted by reference in Rule 62-204.800(7)(b), F.A.C. The following conditions follow the original NSPS rule language and numbering scheme. Regulations that are not applicable were omitted for clarity. Because this emissions unit is subject to an NSPS, it is also subject to the following federal provisions: 40 CFR 60, Subpart A, General Provisions for sources subject to an NSPS, adopted by reference in Rule 62-204.800(7)(d), F.A.C.; 40 CFR 60, Appendix A - Test Methods, Appendix B - Performance Specifications, Appendix C - Determination of Emission Rate Change, Appendix D - Required Emissions Inventory Information, Appendix F - Quality Assurance Procedures, adopted by reference in Rule 62-204.800(7)(e).

**40 CFR 60.330 APPLICABILITY AND DESIGNATION OF AFFECTED FACILITY.**

- (a) The provisions of this subpart are applicable to all stationary gas turbines with a heat input at peak load equal to or greater than 10 million BTU per hour, based on the lower heating value of the fuel fired.

**40 CFR 60.331 DEFINITIONS.**

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

- (a) Stationary gas turbine means any simple cycle gas turbine, regenerative cycle gas turbine or any gas turbine portion of a combined cycle steam/electric generating system that is not self propelled. It may, however, be mounted on a vehicle for portability.
- (b) Simple cycle gas turbine means any stationary gas turbine which does not recover heat from the gas turbine exhaust gases to preheat the inlet combustion air to the gas turbine, or which does not recover heat from the gas turbine exhaust gases to heat water or generate steam.
- (d) Combined cycle gas turbine means any stationary gas turbine which recovers heat from the gas turbine exhaust gases to heat water or generate steam.
- (f) Ice fog means an atmospheric suspension of highly reflective ice crystals.
- (g) ISO standard day conditions means 288 degrees Kelvin, 60 percent relative humidity and 101.3 kilopascals pressure.
- (h) Efficiency means the gas turbine manufacturer's rated heat rate at peak load in terms of heat input per unit of power output based on the lower heating value of the fuel.

**SECTION IV.**

**APPENDIX GG - FEDERAL NEW SOURCE PERFORMANCE STANDARDS (NSPS)**

- (i) Peak load means 100 percent of the manufacturer's design capacity of the gas turbine at ISO standard day conditions.
- (j) Base load means the load level at which a gas turbine is normally operated.
- (p) Gas turbine model means a group of gas turbines having the same nominal air flow, combustor inlet pressure, combustor inlet temperature, firing temperature, turbine inlet temperature and turbine inlet pressure.
- (q) Electric utility stationary gas turbine means any stationary gas turbine constructed for the purpose of supplying more than one-third of its potential electric output capacity to any utility power distribution system for sale.

**60.332 STANDARD FOR NITROGEN OXIDES.**

- (a) On and after the date of the performance test required by Sec. 60.8 is completed, every owner or operator subject to the provisions of this subpart as specified in paragraphs (b) of this section shall comply with one of the following, except as provided in paragraphs (e) of this section.
  - (1) No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = (0.0075) \frac{(14.4)}{Y} + F$$

Where:

STD = allowable NOx emissions (percent by volume at 15 percent oxygen and on a dry basis).

Y = manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour.

F = NO emission allowance for fuel-bound nitrogen as defined in the following table:

- (3) F shall be defined according to the nitrogen content of the fuel as follows:

Fuel-Bound Nitrogen (Percent By Weight)	"F" (NOx Percent By Volume)
N < 0.015	0
0.015 < N < 0.1	0.04(N)
0.1 < N < 0.25	0.004 + 0.0067(N - 0.1)
N > 0.25	0.005

Where, N = the nitrogen content of the fuel (percent by weight).

- (b) Electric utility stationary gas turbines with a heat input at peak load greater than 100 million Btu per hour based on the lower heating value of the fuel fired shall comply with the provisions of paragraph (a)(1) of this section.

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APPENDIX GG - FEDERAL NEW SOURCE PERFORMANCE STANDARDS (NSPS)

deactivated, and the date and time the air pollution control system was reactivated shall be reported. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

40 CFR 60.335 TEST METHODS AND PROCEDURES.

- (a) To compute the nitrogen oxides emissions, the owner or operator shall use analytical methods and procedures that are accurate to within 5 percent and are approved by the Administrator to determine the nitrogen content of the fuel being fired.
- (b) In conducting the performance tests required in Sec. 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided for in Sec. 60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of this section.
- (c) The owner or operator shall determine compliance with the nitrogen oxides and sulfur dioxide standards in Secs. 60.332 and 60.333(a) as follows:

- (1) The nitrogen oxides emission rate (NOx) shall be computed for each run using the following equation:

$$NOx = (NOx_0) (P_r/P_0)^{0.5} (e^{19(H_0 - 0.00673)}) (288^\circ K/T_a)^{1.51}$$

Where

NOx = emission rate of NOx at 15 percent oxygen and ISO standard ambient conditions, volume percent.

NOx<sub>0</sub> = observed NOx concentration, ppm by volume.

P<sub>r</sub> = reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg.

P<sub>0</sub> = observed combustor inlet absolute pressure at test, mm Hg.

H<sub>0</sub> = observed humidity of ambient air, g H<sub>2</sub>O/g air.

E = transcendental constant, 2.718.

T<sub>a</sub> = ambient temperature, °K.

- (2) The monitoring device of Sec. 60.334(a) shall be used to determine the fuel consumption and the water-to-fuel ratio necessary to comply with Sec. 60.332 at 30, 50, 75, and 100 percent of peak load or at four points in the normal operating range of the gas turbine, including the minimum point in the range and peak load. All loads shall be corrected to ISO conditions using the appropriate equations supplied by the manufacturer.
- (3) Method 20 shall be used to determine the nitrogen oxides, sulfur dioxide, and oxygen concentrations. The span values shall be 300 ppm of nitrogen oxide and 21 percent oxygen. The NOx emissions shall be determined at each of the load conditions specified in paragraph (c)(2) of this section.
- (d) The owner or operator shall determine compliance with the sulfur content standard in Sec. 60.333(b) as follows: ASTM D 2880-71 shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 shall be used for the sulfur content of gaseous fuels (incorporated by reference--see Sec. 60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some



**SECTION IV.**

**APPENDIX XS - CEMS EXCESS EMISSIONS REPORT**

**FIGURE 1--SUMMARY REPORT--GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE**

[Note: This form is referenced in 40 CFR 60.7, Subpart A-General Provisions]

Pollutant (Circle One): SO<sub>2</sub> NO<sub>x</sub> TRS H<sub>2</sub>S CO Opacity

Reporting period dates: From \_\_\_\_\_ to \_\_\_\_\_

Company: \_\_\_\_\_

Emission Limitation: \_\_\_\_\_

Address: \_\_\_\_\_

Monitor Manufacturer and Model No.: \_\_\_\_\_

Date of Latest CMS Certification or Audit: \_\_\_\_\_

Process Unit(s) Description: \_\_\_\_\_

Total source operating time in reporting period <sup>1</sup>: \_\_\_\_\_

Emission data summary <sup>1</sup>	CMS performance summary <sup>1</sup>
1. Duration of excess emissions in reporting period due to:	1. CMS downtime in reporting period due to:
a. Startup/shutdown .....	a. Monitor equipment malfunctions .....
b. Control equipment problems .....	b. Non-Monitor equipment malfunctions .....
c. Process problems .....	c. Quality assurance calibration .....
d. Other known causes .....	d. Other known causes .....
e. Unknown causes .....	e. Unknown causes .....
2. Total duration of excess emissions .....	2. Total CMS Downtime .....
3. [Total duration of excess emissions] x (100) / [Total source operating time] ..... % <sup>2</sup>	3. [Total CMS Downtime] x (100) / [Total source operating time] ..... % <sup>2</sup>

<sup>1</sup> For opacity, record all times in minutes. For gases, record all times in hours.

<sup>2</sup> For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in 40 CFR 60.7(c) shall be submitted.

*Note: On a separate page, describe any changes since last quarter in CMS, process or controls. Also, summarize the periods of data excluded from the compliance averages due to startup, shutdown and malfunction.*

I certify that the information contained in this report is true, accurate, and complete.

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

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<p>1. Article Addressed to:</p> <p>Mr. Martin J. Drango  Plant Manager  Florida Power Corporation  P. O. Box 368  Intercession City, FL 33848</p>	<p>3. Service Type</p> <p><input checked="" type="checkbox"/> Certified Mail      <input type="checkbox"/> Express Mail  <input type="checkbox"/> Registered      <input type="checkbox"/> Return Receipt for Merchandise  <input type="checkbox"/> Insured Mail      <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee)      <input type="checkbox"/> Yes</p>
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