Florida Department of Environmental Protection

TO:

Michael G. Cooke

THRU:

Trina L. Vielhauer

A. A. Linero

FROM:

Teresa Heron T.H.

DATE:

August 14, 2003

SUBJECT:

Peaking Mode of Operation for the Six Combined Cycle Combustion Turbines

FPL Ft. Myers 1500 MW Project DEP File No. 0710002-014-AC

Attached for approval and signature is the final permit package for a construction permit modification for the FPL Fort Myers facility.

This permit modification is to allow peak operation mode up to 400 hours per year for each of the existing six combined cycle turbines. Peaking is expected to increase short term NOx emissions from 9 to 15 ppmvd for each turbine and 51 TPY for all six turbines due to higher temperatures during this mode. However, due to the substantial emissions decrease of this pollutant during the permitting of the repowering project in 1998, this project will not result in a net increase of NO_X emissions or any other criteria pollutants.

We have determined that the current project nets out of PSD for all pollutants because of the very substantial emissions reductions resulting from the 1998 repowering project at the site.

We recommend your approval and signature.

AAL/th

Attachments

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION NOTICE OF PERMIT

In the Matter of an Application for Permit Modification by:

Mr. William Reichel, Plant General Manager Florida Power & Light Post Office Box 430 Ft. Myers, Florida 33905

DEP File No. 0710002-014-AC Peak Mode Operation 1500 MW Combined Cycle Turbines Ft. Myers Power Plant

Enclosed is the Final Permit Number 0710002-014 AC for an air construction permit to authorize peak mode operation for each 250 MW combined cycle turbine at the Fort Myers Plant in Lee County. This permit is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Legal Office; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

Trina L. Vielhauer, Chief Bureau of Air Regulation

CERTIFICATE OF SERVICE

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

William Reichel, FPL* Kevin Washington, FPL Ron Blackburn, DEP SD Doug Neely, EPA John Bunyak, NPS Chair, Lee County Commission* Ken Kosky, P.E., Golder Associates

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.

Koin Tilson August 14, 2003

FINAL DETERMINATION

Florida Power and Light Company (FPL)
Ft. Myers Power Plant, Lee County
1500 MW Combined Cycle Turbines Peak Mode of Operation
DEP File No: 0710002-014-AC

An Intent to Issue an air construction permit authorizing peak operation mode up to 400 hours per year for each of the six combined cycle turbines at the Ft Myers Power Plant was distributed on April 22, 2003. This facility is located at 10650 State Road 80, Lee County, Florida.

The Public Notice of Intent to Issue Air Construction Permit was published in the Fort Myers News-Press on July 15, 2003. Comments from FPL were received as a result of the Public Notice.

FPL requested to revise Specific Conditions No. 4 to clarify that the lb/hr emissions are at ISO conditions and to revise Specific Condition No. 5 to include testing requirement for only two of the six units.

The Department considered FPL's request and revised Specific Conditions No. 4 and 5 as follows:

4. Peaking Mode Operation Limits:

The combined cycle gas turbines are subject to the following emission limits during peaking mode operation. Emissions limits are corrected to 15% O_2 (lb/hr at ISO Conditions).

Emission Unit ARMS 018- 023	NO _x	СО	VOC	PM/Visibility (% Opacity)	Technology and Comments
Combustion Turbines	15 ppmvd (24-hr block avg) 102 lb/hr	9 ppmvd 29 lb/hr	1.4 ppmvd 3 lb/hr	10	Dry Low NO _X Combustors Natural Gas, Good Combustion

Averaging Time: A 24-hour block shall begin at midnight of each operating day and shall be calculated from 24 consecutive hourly average emission rate values. If a unit operates less than 24 hours during the block, the 24-hour block average shall be the average of available valid hourly average emission rate values for the 24-hour block. For purposes of determining compliance with the 24-hour CEMS standards, missing (or excluded) data shall not be substituted. Instead, the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block. Peaking mode of operation shall be excluded from compliance with the 30-day rolling average.

[Applicant Request, Rules 62-210.200 (Definitions-Potential Emissions), and 62-4.070(3), F.A.C.].

5. Peaking Mode Operation Compliance Requirements:

Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate at which each unit will be operated, but not later than 180 days following initial operation of the unit in the *peaking* mode, by using the following reference methods as described in 40 CFR 60, Appendix A, and adopted by reference in Chapter 62-204.800, F.A.C.

The following reference methods shall be used. No other test methods may be used for compliance testing unless prior DEP approval is received in writing.

EPA Reference Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources".

EPA Reference Method 7, "Determination of Nitrogen Oxides Emissions from Stationary Sources.

Compliance for each pollutant after the initial tests shall be the same as outlined in the original permit 0710002-004-AC issued on 11/25/98.

<u>Testing for peak operation may be carried out on two of the units. The Department will consider testing of two of the units to be representative of all six units.</u>

[Application; Rules 62-210.200(PTE) and 62-4.070 (3), F.A.C.]

The final action of the Department will be to issue the permit with the changes noted above.



Department of Environmental Protection

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

David B. Struhs Secretary

PERMITTEE:

Florida Power & Light Company Fort Myers Power Plant Post Office Box 430 Fort Myers, Florida 33905 Permit No. 0710002-014-AC

Project: 1500 MW Combined Cycle

Turbines Peak Mode of Operation

SIC No. 4911

Expires: July 1, 2004

Authorized Representative:

William Reichel Plant General Manager

PROJECT AND LOCATION:

This permit authorizes peak operation mode for up to 400 hours per year for each of the existing six combined cycle turbines that comprise the 1500 MW repowering project. Each unit is a 170 megawatt General Electric MS7241FA gas-fired combustion turbine-generator with an unfired heat recovery steam generator (HRSG) that raises sufficient steam to produce another 80 MW via the existing steam-driven electrical generators.

This facility is located at 10650 State Road 80 near Tice, Lee County. UTM coordinates are: Zone 17; 422.3 km E and 2,952.9 km N.

STATEMENT OF BASIS:

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

ATTACHED APPENDIX MADE A PART OF THIS PERMIT:

Appendix GC

General Conditions

Michael G. Cooke, Director Division of Air Resources Management

Michael A. Cooke

"More Protection, Less Process"

Printed on recycled paper.

AIR CONSTRUCTION PERMIT 0710002-014-AC SPECIFIC CONDITIONS

- 1. The provisions of air construction permit DEP File 0710002-004-AC issued on 11/25/98 and subsequent revisions 0710002-005-AC issued on 7/20/99; 0710002-006-AC issued on 10/15/99; 0710002-008-AC issued on 6/14/00 and 0710002-013-AC issued on 4/22/03 are not modified by this permitting action.
- 2. This permit (No. 0710002-014-AC), supplements original Permit No. 0710002-004-AC issued on 11/25/98 and regulates emissions during high temperature peaking mode operation.
- 3. Each gas turbine may operate in a high-temperature *peaking* mode to generate additional direct, shaft-driven electrical power to respond to peak demands. During any consecutive 12 months, each combined cycle gas turbine shall operate in this peaking mode for no more than 400 hours of operation. The maximum heat input rate to each gas turbine is 1838 MMBtu per hour in peak mode operation (based on a compressor inlet air temperature of 59° F, the lower heating value (LHV) of each fuel, and 100% load).

4. Peaking Mode Operation Limits:

The combined cycle gas turbines are subject to the following emission limits during peaking mode operation. Emissions limits are corrected to 15% O₂ (lb/hr at ISO Conditions).

Emission Unit	NO _X	СО	voc	PM/Visibility (% Opacity)	Technology and Comments
Combustion	15 ppmvd (24-hr block avg)	9 ppmvđ	1.4 ppmvd	10	Dry Low NO _X Combustors
Turbines (each)	102 lb/hr	29 lb/hr	3 lb/hr		Natural Gas, Good Combustion

Averaging Time: A 24-hour block shall begin at midnight of each operating day and shall be calculated from 24 consecutive hourly average emission rate values. If a unit operates less than 24 hours during the block, the 24-hour block average shall be the average of available valid hourly average emission rate values for the 24-hour block. For purposes of determining compliance with the 24-hour CEMS standards, missing (or excluded) data shall not be substituted. Instead, the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block. Peaking mode of operation shall be excluded from compliance with the 30-day rolling average.

[Applicant Request, Rules 62-210.200 (Definitions-Potential Emissions), and 62-4.070(3), F.A.C.].

5. Peaking Mode Operation Compliance Procedures:

Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate at which each unit will be operated, but not later than 180 days following initial operation of the unit in the *peaking* mode, by using the following reference methods as described in 40 CFR 60, Appendix A, and adopted by reference in Chapter 62-204.800, F.A.C.

The following reference methods shall be used. No other test methods may be used for compliance testing unless prior DEP approval is received in writing.

EPA Reference Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources".

AIR CONSTRUCTION PERMIT 0710002-014-AC SPECIFIC CONDITIONS

EPA Reference Method 7, "Determination of Nitrogen Oxides Emissions from Stationary Sources.

Compliance for each pollutant after the initial tests shall be the same as outlined in the original permit 0710002-004-AC issued on 11/25/98.

Testing for peak operation may be carried out on two of the units. The Department will consider testing of two of the units to be representative of all six units.

[Application; Rules 62-210.200(PTE) and 62-4.070 (3), F.A.C.]

6. <u>Title V Permit</u>: This permit authorizes modification of the emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

APPENDIX GC

GENERAL CONDITIONS

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

- 1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- 2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- 3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
- 4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- 5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- 6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- 7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
 - a. Have access to and copy and records that must be kept under the conditions of the permit;
 - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
 - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

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

- 8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - a. A description of and cause of non-compliance; and
 - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

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

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

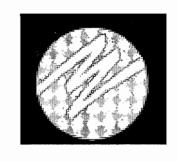
APPENDIX GC

GENERAL CONDITIONS

- 10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
- 11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- 12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
- 13. This permit also constitutes:
 - a. Determination of Best Available Control Technology (not applicable to project);
 - b. Determination of Prevention of Significant Deterioration (not applicable to project); and
 - c. Compliance with New Source Performance Standards.
- 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.
- 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.

nite - This is just FYI on the 1998 reductions.

Ft. Myers Repowering



<u>Pollutant</u>	<u>From</u>	To(tpy)
Sulfur Dioxide	20,500	137
Nitrogen Oxides*	7,100	1,845
Sulfuric Acid	915	21
PM_{10}	607	313
CO	1507	1,247

^{*} From 3.2 to 0.26 lb/MWH (9 ppmvd by DLN)

COMPLETE THIS SECTION ON DELIVERY SENDER: COMPLETE THIS SECTION ■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse C. Signature so that we can return the card to you. ☐ Agent Attach this card to the back of the mailpiece, Addressee or on the front if space permits. 1. Article Addressed to: If YES, enter delivery and Ray Judah, Chair AUG 18 2003 Lee County Board of "County Commission Post Office Box 398 Express MaMERS 3. Service Type Ft. Myers, FL 33902-0398 Certified Mail ☐ Return Receipt for Merchandise Registered ☐ C.O.D. ☐ Insured Mail 4. Restricted Delivery? (Extra Fee) ☐ Yes 7001 0320 0001 3692 5412 102595-99-M-1789 PS Form 3811, July 1999 Domestic Return Receipt **U.S. Postal Service U.S. Postal Service**

CJ.		MAIL REC	EIPT Coverage Provided)
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36	Certified Fee		Postmark
0007	Return Receipt Fee (Endorsement Required)		Here
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320	Total Postage & Fees	\$	
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7001	Street, Apt. No.; orPOBoBNOx 39	8	
~	City, State, ZIP+4 Ft. Myers	, FL 3390	2-0398
	PS Form 3800, January 20	001	See Reverse for Instructions

CERTIFIED MAIL RECEIPT (Domestic Mail Only; No Insurance Coverage Provided) u ш 54 ш Postage 36 Certified Fee Postmark Here Return Receipt Fee (Endorsement Required) 007 Restricted Delivery Fee 20 Total Postage & Fees | \$ William Reichel Street, Apt. No.; or AP Box 130 City, State, ZIP+4 Myers, FL 33905

See Reverse for Instructions	PS Form 3800, January 2001	See Rev			
SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIV	ERY			
 Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	A. Received by (Please Print Clearly) E MARY K. RUSSELL C. Signature	Agent Addressee			
1. Article Addressed to:	D. Is delivery address different from item 1? Yes If YES, enter delivery address below: No				
Mr. William Reichel Plant General Manager Florida Power & Light Post Office Box 430					
Ft. Myers, FL 33905	3. Service Type Certified Mail	t for Merchandise			
	4. Restricted Delivery? (Extra Fee)	☐ Yes			
2. 7001 0320 0001 3692 548	29				
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JUL 28 2003

July 25, 2003

BUREAU OF AIR REGULATION

Ms Trina L. Vielhauer Bureau of Air Regulation 2600 Blair Stone Road Mail Station 5505 Tallahassee, FL 32399-2400

Re:

Air Construction Permit Modification

Peak Operation Mode for 1500 Megawatt Combined Cycle Combustion Turbines

DEP File No. 0710002-014-AC

Dear Ms Vielhaur;

Enclosed please find the affidavit of publication for the Air Construction Permit modification for the FPL Fort Myers Plant Combined Cycle Combustion Turbines as required under Rule 62-110.106(7)(b), F.A.C. The notice was published in the Fort Myers News-Press on Tuesday and 7/15/03.

If you have any questions please contact Bernie Tibble at (239) 693-4390

Beth Casey

Beth E. Casey Fort Myers Plant

NEWS-PRESS

Published every morning - Daily and Sunday Fort Myers, Florida

Affidavit of Publication

STATE OF FLORIDA COUNTY OF LEE

Before the undersigned authority, personally appeared

Ellen M. Polanshek

who on oath says that he/she is the

Asst. Legal Clerk of the News-Press, a

daily newspaper, published at Fort Myers, in Lee County, Florida; that the attached copy of advertisement, being a

notice of intent

in the matter of DEP Permit to Florida Power & Light

n the published in said newspaper in the issues of

July 15, 2003

Affinnt further says that the said News-Press is a paper of general circulation daily in Lee, Charlotte, Collier, Glades and Headry Counties and published at Fort Myers, in said Lee County, Florida and that said newspaper has heretofore been continuously published in said Lee County; Florida, each day, and has been entered as a second class mail matter at the post office in Fort Myers in said Lee County, Florida, for a period of one year next preceding the first publication of the attached copy of the advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Sworn to and subscribed before me this

25th day of July, 2003 by

Ellen M. Polanshek

personally known to me or who has produced

as identification, and who did or did not take an

Notary Public

Print Name

My commission Expires:



BUREAU OF AIR REGULATION

Memorandum

Florida Department of Environmental Protection

TO:

Trina L. Vielhauer

THRU:

Jeff Koerner

A. Linero

FROM:

Teresa Heron

DATE:

June 27, 2003

SUBJECT:

Peaking Mode of Operation for the Six Combined Cycle Combustion Turbines

FPL Ft. Myers 1500 MW Project DEP File No. 0710002-014-AC

Attached is the draft public notice package including the Intent to Issue and the Technical Evaluation and Preliminary Determination for the above facility.

The application is for a permit modification to allow peak operation mode up to 400 hours per year for each of the existing six combined cycle turbines. Peaking is expected to increase short term NOx emissions from 9 to 15 ppmvd for each turbine and 51 TPY for all six turbines due to higher temperatures during this mode. However, due to the substantial emissions decrease of this pollutant during the permitting of the repowering project, this project will not result in a net increase of NO_x emissions or any other criteria pollutants.

We have determined that the project nets out of PSD for all pollutants because of the very substantial emissions reductions resulting from the 1998 repowering project at the site.

We recommend your approval of the attached Intent to Issue and the cover letter.

AAL/th

Attachments

P.E. CERTIFICATION STATEMENT

PERMITTEE

FPL Fort Myers Power Plant P.O. Box 430 Fort Myers, FL 33905

Draft Air Permit No. 0710002-014-AC Project: Peaking Mode Operation Emissions Units 018 - 023 Lee County, Florida

(Date)

PROJECT DESCRIPTION

FPL requests the capability to operate their six new combined cycle gas turbines (Units 6A - 6F) in a high temperature peaking mode of operation for up to 400 hours per year per unit. During this mode, a small amount of additional fuel is fired and the automatic gas turbine control system allows a slightly higher combustion temperature. Due to the higher temperatures, NOx emissions may increase from 9 to 15 ppmvd corrected to 15% oxygen. Only small increases of CO, PM, SO2, and VOC emissions are expected due to the firing of additional fuel. However, CO and VOC emissions may actually decrease due to the higher firing temperature.

Based on the application, the project will result in the following potential emissions increases for all six gas turbines combined: 0.1 TPY of CO; 51 TPY of NOx; negligible increases of PM; 0.2 TPY of SO2; and negligible increases of VOC. Again, these are the differences between 400 hours of normal operation and 400 hours of peaking. Only NOx emissions have the potential to exceed the PSD significant emission rate and trigger PSD preconstruction review. However, the original construction project required the shutdown of existing oil-fired Boilers 1 and 2, which resulted in large emissions decreases for all pollutants and a more than 7000 TPY decrease for NOx. Boilers 1 and 2 were eventually retired in 2001, which is well within the 5 year contemporaneous period of the current request. Therefore, there will be no net emissions increase.

The draft permit contains performance and testing requirements related only to the peaking mode of operation. The NOx standard during peaking mode will be 15 ppmvd @ 15% oxygen based on a 24-hour average. Compliance will be demonstrated by data collected from the existing NOx CEMS. This is a stand-alone permit and does not modify any conditions in the previous air construction permits. Instead, it is intended to supplement the previous permitting, actions and regulate emissions during peaking.

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

Jeffery F. Koerner, P.E.

Registration Number: 49441



Department of Environmental Protection

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

David B. Struhs Secretary

July 3, 2003

CERTIFIED MAIL - RETURN RECEIPT REQUESTED
Mr. William Reichel, General Manager
FPL Fort Myers Plant
Post Office Box 430

Fort Myers, Florida 33905

Re: DEP File No. 0710002-014-AC

Combined Cycle Combustion Turbine Peaking Project

Dear Mr. Reichel:

Enclosed is one copy of the Draft Air Construction Permit and the Technical Evaluation and Preliminary Determination for the referenced project at the FPL Fort Myers Plant, north of State Road 80, near Tice, Lee County. The Department's Intent to Issue Air Construction Permit and the "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT" are also included.

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

Please submit any written comments you wish to have considered concerning the Department's proposed action to A. A. Linero, P.E. Administrator, New Source Review Section at the above letterhead address. If you have any other questions, please call Ms Teresa Heron at 850/921-9529 or Mr. Linero 850/921-9523.

Sincerely,

Trina L. Vielhauer, Chief, Bureau of Air Regulation

una J Vielhauer

TLV/th

Enclosures

In the Matter of an Application for Permit by:

Mr. William Reichel, General Manager FPL Fort Myers Plant Post Office Box 430 Fort Myers, Florida 33905 DEP File No. 0710002-014-AC 1500 MW Combined Cycle Combustion Turbines Peak Mode of Operation Project Lee County

INTENT TO ISSUE AIR CONSTRUCTION PERMIT

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit (copy of DRAFT Permit attached) for the proposed project, detailed in the application specified above and the attached Technical Evaluation and Preliminary Determination, for the reasons stated below.

The applicant, Florida Power & Light Company (FPL), applied on May 15, 2003 to the Department to operate the combustion turbines associated with Units 2A through 2F in Peak Firing Mode for up to 400 hours per year. The Fort Myers Plant is located near Tice, Lee County.

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 the 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, 62-213, 62-296, and 62-297, F.A.C.

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

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

The Department will accept written comments concerning the proposed permit issuance action for a period of 14 (fourteen) days from the date of publication of <u>Public Notice of Intent to Issue Air Permit</u>. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

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

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

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

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

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

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

DEP File 0710002-014-AC Page 3 of 3

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

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

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

Executed in Tallahassee, Florida.

Trina L. Vielhauer, Chief Bureau of Air Regulation

Leun & Veelhauer

CERTIFICATE OF SERVICE

William Reichel, FPL*
Richard Piper, FPL
Ron Blackburn, DEP SD
Doug Neeley, EPA
John Bunyak, NPS
Chair, Lee County Commission*
Ken Kosky, P.E., Golder Associates

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.

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. 0710002-014-AC

Florida Power & Light Fort Myers Plant
Peak Mode of Operation for the 1500 Megawatt Combined Cycle Combustion Turbines
Lee County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Florida Power & Light Company (FPL). The original permit (0710002-004-AC) issued on November 25, 1998, allowed the installation of six combined cycle units that replaced two (2) residual oil-fired steam generators at the Fort Myers Plant near Tice, Lee County. A Best Available Control Technology (BACT) determination was not required for the original permit and is not required for this project pursuant to Rule 62-212.400, F.A.C. The applicant's name and address are Florida Power & Light, Fort Myers Plant, Post Office Box 430, Fort Myers, Florida 33905.

The permit is to allow peak operation mode up to 400 hours per year for each of the six combined cycle turbines. Peaking is expected to increase short term NOx emissions from 9 to 15 ppmvd for each turbine and 51 TPY for all six turbines due to higher temperatures during this mode. However, due to the substantial emissions decrease of this pollutant during the permitting of the repowering project, this project will not result in a PSD significant net increase of NO_X emissions or any other criteria pollutants. Therefore, an air quality impact analysis was not required.

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

The Department will accept written comments concerning the proposed permit issuance action for a period of fourteen (14) days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

This Fort Myers Project is not subject to review under Section 403.506 F.S. (Power Plant Siting Act), because it provides for no expansion in steam generating capacity.

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

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

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

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

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

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

Florida Department of Environmental Protection Bureau of Air Regulation 111 S. Magnolia Drive, Suite 4 Tallahassee, Florida, 32301 Telephone: (850)488-0114

Fax: (850)922-6979

Florida Department of Environmental Protection South District Office 2295 Victoria Avenue, Suite 364 Fort Myers, Florida 33902-2549 Telephone: (941)332-6975 Fax: (941)332-6969

The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information. The Department's technical evaluations and Draft Permit can be viewed at www.dep.state.fl.us/air/permitting.htm by clicking on Construction Permits.

TECHNICAL EVALUATION

AND

PRELIMINARY DETERMINATION

Florida Power & Light Company

Fort Myers Power Plant
Peak Mode of Operation
Lee County

DEP File No. 0710002-014-AC

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

1. APPLICATION INFORMATION

1.1 Applicant Name and Address

Florida Power & Light Company (FPL)

Fort Myers Power Plant

Post Office Box 430

Fort Myers, Florida 33905

Authorized Representative: William Reichel, Plant General Manager

1.2 Reviewing and Process Schedule

05-15-03: Date of I

Date of Receipt of Application

05-15-03:

Application completed

06-27-03:

Intent Issued

2. FACILITY INFORMATION

2.1 Facility Location

Refer to Figures 1 and 2 below. The FPL Fort Myers Plant is located on 460 acres, north of State Road 80 and approximately 2.5 miles east of Tice, Lee County. This site is approximately 97 kilometers from Everglades National Park, a Class I PSD Area. The UTM coordinates of this facility are Zone 17, 422.3 km E; 2,952.9 km N.

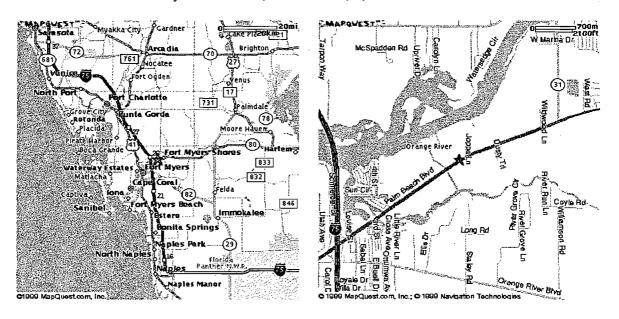


Figure 1 – Regional Location

Figure 2 – Location of Plant

2.2 Standard Industrial Classification Codes (SIC)

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

2.3 Facility Category

The FPL Fort Myers Plant (Figure 3) generates electric power from six natural gas fired combined cycle combustion turbines (1500 MW), two simple cycle natural gas/oil fired combustion turbines (340 MW) and 12 distillate fuel oil-fired simple cycle combustion turbines with a combined generating capacity of 708 MW. The six natural gas-fired combined cycle units replaced the two residual fuel oil-fired units and are repowering the existing electrical generators associated with those units (593 megawatts (MW). These projects have increased the nominal capacity of the plant from 1305 MW (in 1998) to approximately 2548 MW.

The facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_X), carbon monoxide (CO), or volatile organic compounds (VOC) exceeds 100 TPY.

This facility is within an industry included in the list of the 28 Major Facility Categories per Table 62-212.400-1, F.A.C. Because emissions are greater than 100 TPY for at least one criteria pollutant, the facility is also a major facility with respect to Rule 62-212.400, Prevention of Significant Deterioration (PSD). No review per the PSD rules and determination for Best Available Control Technology (BACT) per Rule 62-212.400, F.A.C., is being conducted for this project. In combination with the contemporaneous decreases, there will be no PSD significant net emissions increases.

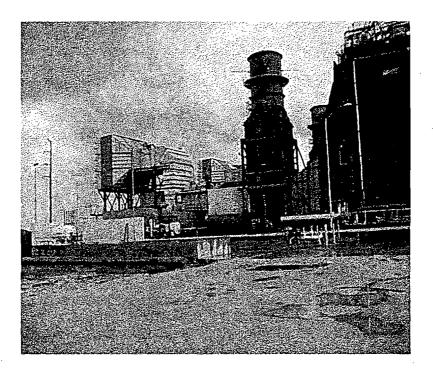


Figure 3 – View of the Combined Cycle Combustion Gas Turbines

3. PROJECT DESCRIPTION

This permit addresses the following emissions units:

Emission Unit No.	System	Emission Unit Description
ARMS Units 018 – 023	Power Generation	Six (6) Combined Cycle Combustion Turbine- Electrical Generators with Unfired Heat Recovery Steam Generators

These units were permitted in 1998 as a result of the shutdown of boilers No. 1 and No.2.

FPL proposes to operate the combustion turbines associated with Units 2A through 2F (ARMS Units 018-023) in peak firing mode for up to 400 hours per year. *Peaking* is simply running the unit at greater than design fuel input. *Peaking* allows gas turbine temperatures to drift higher than normal and results in increased in shaft-driven electrical power production. *Peaking* is expected to increase NOx emissions from the gas turbine due to higher temperatures.

Emissions increases due to this project will occur. According to the application, estimated emissions for each turbine operating at capacity for 400 hours of peaking are 5.78 tons per year of CO, 1.02 TPY of SO₂, 1.8 TPY of PM/PM₁₀, 20.24 TPY of NO_X, and 0.56 TPY of VOC.

An evaluation of the HAP emissions, as presented by the applicant in the original 1998 application, indicates that emissions are less than 25 tons/year for all HAPs and less than 10 tons/yr for a single HAP. This project will not have any significant increase of these emissions.

The additional project information related to the combustor design, and control measures to minimize pollutant emissions from these units are given in the original permit 0710002-004-AC and Technical Evaluation and Preliminary Determination issued in 1998.

4. RULE APPLICABILITY

The proposed facility is subject to applicable requirements under the provisions of Chapter 403, Florida Statutes, and Chapters 62-4, 62-204, 62-210, 62-212, 62-214, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.) including applicable portions of the Code of Federal Regulations 40 CFR Part 60, Part 72, Part 73, Part 75 and Part 77 incorporated therein.

This facility is located in Lee County; an area designated as attainment for all criteria pollutants in accordance with Rule 62-204.360, F.A.C. The proposed project is not subject to PSD review under Rule 62-212.400., F.A.C. for PM/PM₁₀, CO, SO₂, SAM and NO_X. The reason, as discussed below, is that after considering all emissions changes from other contemporaneous projects (the repowering, the construction of two simple cycle turbines and

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

the installation of the foggers in the old peaking units), the net potential emission increases do not exceed the significant emission rates given in Table 62-212.400-2, F.A.C.

5. AIR POLLUTION CONTROL TECHNOLOGY

5.1 Permit Limits

Permit Emissions Rates for Original permit 0710002-004-AC including the Request for Peaking Mode of Operation.

Emission Unit	NO _x	со	VOC	PM/Visibility (% Opacity)	Technology and Comments
Combustion Turbines	9 ppmvd (baseload) 15 ppmvd (peaking)	12 ppmvd (baseload) 9 ppmvd (peaking)	1.4 ppmvd	10	Dry Low NO _X Combustors Natural Gas, Good Combustion

Note:

30-days average time for an emission rate of 9 ppmvd NOx @ 15%O2

24-hr block average for an emission rate of 15 ppmvd NOx @ 15%O₂

6. SOURCE IMPACT ANALYSIS

6.1 Emission Limitations

The proposed combustion turbines in the peak mode will primarily emit particulate matter, sulfur dioxide, nitrogen oxides, volatile organic compounds, carbon monoxide, and sulfuric acid mist. The applicant's proposed annual emissions for criteria pollutants are summarized in the Table below and form the basis of the source impact review.

6.2 Emission Summary and Contemporaneous Emission Evaluation

The proposed emission increases due to the operation in the peak mode netted out of PSD review pursuant to Rule 62.212.400(2) (e) F.A.C., Net Emissions Increases.

In 1998, the Department issued a minor source (net out of PSD review) construction permit for the 1500 MW repowering project. The potential emissions from this project are: PM/PM₁₀ 313 TPY; SAM 21 TPY; SO₂ 137 TPY; NOx 1845 TPY; CO 1207 TPY; and VOC 47 TPY.

In 1999, the Department issued another construction permit to allow the installation of foggers to the 12 existing simple cycle turbines. The potential emissions from this project are: PM/PM₁₀ 2 TPY; SO₂ 24 TPY; NOx 34 TPY; CO 2 TPY; and VOC 1 TPY.

In 2000, the Department issued another permit construction to allow the construction of two additional simple cycle GE Frame 7A combustion turbines. The potential emissions from this project are: PM/PM₁₀ 91 TPY; SAM 4 TPY; SO₂ 91 TPY; NOx 741 TPY; CO 280TPY; and VOC 26 TPY.

In 2001, existing Boilers 1 and 2 were permanently retired. The project for peaking mode operation is scheduled for completion in 2003. The emissions increases from the peaking mode project is contemporaneous with the emissions decreases from retiring Boilers 1 and 2.

Under the PSD regulations, Rule 62-212.400 (2)(e), F.A.C., these projects are considered contemporaneous. Therefore, since the decrease from the repowering project is so large, the contemporaneous emissions increases from the proposed project are still under PSD significant threshold level. The contemporaneous emissions decreases for this facility as a result of the operation in peak mode are summarized as follows:

CONTEMPORANEOUS CREDITABLE CHANGES EMISSIONS (TPY)

Pollutant	Past Actual Emissions. Boilers 1 & 2 Decrease from Shutdown	Past Changes 1999-2002 Repowering, Foggers and Simple Cycle Increase (a)	Future Changes Peak Mode Operation for Units 018-023 Increase (b)	Total Changes All projects Increase and Decrease (c)	PSD Significance Emission Levels	PSD Review?
PM/PM ₁₀	-607	406	0	-203	25/15	No
SAM	-915	25		-890	7	No
SO ₂	-20561	252 .	0.24	-20309	40	No
NO _X	-7095	2620	51	-4424	40	No
VOC	-47	109	0.024	62 ^(d)	40	No
CO	-1507	1489	0.12	-18	100	No

Notes:

6.3 Air Quality Analysis

The proposed project (when considering contemporaneous changes) will not result in the net increase of emissions of any PSD pollutants at levels in excess of significant amounts. An analysis of the air quality impact from the proposed project is not required.

7. CONCLUSION

⁽a) Past Emissions Increases: Repowering (1998), Foggers (1999) and Simple Cycle Turbines (2000) Projects.

⁽b) Future Potential Emissions Increase: Peak Mode of Operation for the Six new Combined Cycle Units.

⁽c) Total Changes: Repowering, Foggers, Simple Cycle CTs and Peak Mode of Operation Projects. Contemporaneous Emissions Decreases/Increases from all the projects since 1999-2003.

⁽d) This facility went through PSD review for VOC in 2000 during the permitting of the 340 MW Simple Cycle Project. The increase of VOC emissions from the peak mode operation is 0.024 TPY. Emissions are calculated at a turbine inlet temperature of 59° F.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

7. **CONCLUSION**

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

Teresa Heron, Review Engineer Jeff Koerner, P.E. New Source Review Section



Department of Environmental Protection

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

David B. Struhs Secretary

PERMITTEE:

Florida Power & Light Company Fort Myers Power Plant Post Office Box 430 Fort Myers, Florida 33905

Authorized Representative:

William Reichel Plant General Manager Permit No. 0710002-014-AC

Project: 1500 MW Combined Cycle

Turbines Peak Mode of Operation

SIC No. 4911

Expires: July 1, 2004

PROJECT AND LOCATION:

This permit authorizes peak operation mode for up to 400 hours per year for each of the existing six combined cycle turbines that comprise the 1500 MW repowering project. Each unit is a 170 megawatt General Electric MS7241FA gas-fired combustion turbine-generator with an unfired heat recovery steam generator (HRSG) that raises sufficient steam to produce another 80 MW via the existing steam-driven electrical generators.

This facility is located at 10650 State Road 80 near Tice, Lee County. UTM coordinates are: Zone 17; 422.3 km E and 2,952.9 km N.

STATEMENT OF BASIS:

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

ATTACHED APPENDIX MADE A PART OF THIS PERMIT:

Appendix GC

General Conditions

(DRAFT)

Howard L. Rhodes, Director Division of Air Resources Management

"More Protection, Less Process"

AIR CONSTRUCTION PERMIT 0710002-014-AC SPECIFIC CONDITIONS

- 1. The provisions of air construction permit DEP File 0710002-004-AC issued on 11/25/98 and subsequent revisions 0710002-005-AC issued on 7/20/99; 0710002-006-AC issued on 10/15/99; 0710002-008-AC issued on 6/14/00 and 0710002-013-AC issued on 4/22/03 are not modified by this permitting action.
- 2. This permit (No. 0710002-014-AC), supplements original Permit No. 0710002-004-AC issued on 11/25/98 and regulates emissions during high temperature peaking mode operation.
- 3. Each gas turbine may operate in a high-temperature peaking mode to generate additional direct, shaft-driven electrical power to respond to peak demands. During any consecutive 12 months, each combined cycle gas turbine shall operate in this peaking mode for no more than 400 hours of operation. The maximum heat input rate to each gas turbine is 1838 MMBtu per hour in peak mode operation (based on a compressor inlet air temperature of 59° F, the lower heating value (LHV) of each fuel, and 100% load).

4. Peaking Mode Operation:

The combined cycle gas turbines are subject to the following emission limits during peaking mode operation. Emissions limits are corrected to 15% O₂:

Emission Unit ARMS 018-023	NO _X	CO	Voc	PM/Visibility (% Opacity)	Technology and Comments
Combustion	15 ppmvd (24-hr block avg)	9 ppmvd	1:4 ppmvd	10	Dry Low NO _X Combustors
Turbines (each)	102 lb/hr	29 lb/hr	3 lb/hr		Natural Gas, Good Combustion

Averaging Time: A 24-hour block shall begin at midnight of each operating day and shall be calculated from 24 consecutive hourly average emission rate values. If a unit operates less than 24 hours during the block, the 24-hour block average shall be the average of available valid hourly average emission rate values for the 24-hour block. For purposes of determining compliance with the 24-hour CEMS standards, missing (or excluded) data shall not be substituted. Instead, the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block. Peaking mode of operation shall be excluded from compliance with the 30-day rolling average standard.

[Applicant Request, Rules 62-210.200 (Definitions-Potential Emissions), and 62-4.070(3), F.A.C.].

5. Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate at which each unit will be operated, but not later than 180 days following initial operation of the unit in the *peaking* mode, by using the following reference methods as described in 40 CFR 60, Appendix A, and adopted by reference in Chapter 62-204.800, F.A.C.

The following reference methods shall be used. No other test methods may be used for compliance testing unless prior DEP approval is received in writing.

EPA Reference Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources".

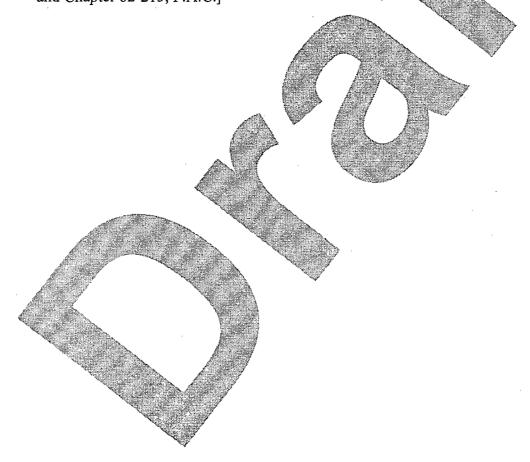
AIR CONSTRUCTION PERMIT 0710002-014-AC SPECIFIC CONDITIONS

EPA Reference Method 7, "Determination of Nitrogen Oxides Emissions from Stationary Sources.

Compliance for each pollutant after the initial tests shall be the same as outlined in the original permit 0710002-004-AC issued on 11/25/98.

[Application; Rules 62-210.200(PTE) and 62-4.070 (3), F.A.C.]

6. <u>Title V Permit</u>: This permit authorizes modification of the emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]



APPENDIX GC

GENERAL CONDITIONS

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

- 1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- 2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- 3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
- 4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- 5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- 6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- 7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
 - a. Have access to and copy and records that must be kept under the conditions of the permit;
 - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
 - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

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

- 8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - a. A description of and cause of non-compliance; and
 - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

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

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

APPENDIX GC

GENERAL CONDITIONS

- 10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
- 11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- 12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
- 13. This permit also constitutes:
 - a. Determination of Best Available Control Technology (not applicable to project);
 - b. Determination of Prevention of Significant Deterioration (not applicable to project); and
 - c. Compliance with New Source Performance Standards.
- 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.
- 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.

COMPLETE THIS SECTION ON DELIVERY SENDER: COMPLETE THIS SECTION. ■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. ■ Print your name and address on the reverse so that we can return the card to you. Agent Attach this card to the back of the mailpiece, X ☐ Addressee or on the front if space permits. ☐ Yes 1. Article Addressed to: If YES, enter delivery address below: Ray Judah, Chair Lee County Board of County Commissioners Post Office Box 398 3. Service Type Fort Myers, FL 33902-0398 Certified Mail Registered ☐ Express Mail ☐ Return Receipt for Merchandise ☐ C.O.D. ☐ Insured Mail 4. Restricted Delivery? (Extra Fee) ☐ Yes 2. 7001 0320 0001 3692 5597 PS Form 3811, July 1999 Domestic Return Receipt 102595-99-M-1789

_	CERTIFIED (Domestic Mail O) N	IAI		EC ance	Co.	PT verage	Provided)	
5597			STAN	A CONTRACTOR			\$ (\$ (\$)	1	
42	Postage	\$							
36	Certified Fee						Postmark Here		
]]	Return Receipt Fee (Endorsement Required)								
0007	Restricted Delivery Fee (Endorsement Required)								
150	Total Postage & Fees	\$							
<u>F</u>	Ray Judah								
7007	Street, Apt. No.: orPOBBOX 398		••••			•••			
70	City, State, ZIP+4 Ft. Myers,	FL	339	902	-039	98			
	PS Form 3800; January 20	001		150	SEC.	100	See R	everse for Instr	uctions

		MAIL REC	EIPT Coverage Provided)			
5603						
3695	Postage Certified Fee	s				
1000	Return Receipt Fee (Endorsement Required) Restricted Delivery Fee		Postmark Here			
50	(Endorsement Required) Total Postage & Fees	\$.				
7001 03	William Reichel Street Apt. No.: oP980Brex 430 City, State. ZiP-4 Ft. Myers, FL 33905					
	PS Form 3800. January 20	001次多。《福祉》	See Reverse for Instructions			

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
 Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. Article Addressed to: Mr. William Reichel General Manager FPL - Fort Myers Plant Post Office Box 430 	A. Received by (Please Print Clearly) B. Date of Delivery C. Signature Agent Addresset D. Is delivery address different from item 1? Yes If YES, enter delivery address below: No
Fort Myers, FL 33905	3. Service Type Certified Mail

Golder Associates Inc.

6241 NW 23rd Street, Suite 500 Gainesville, FL 32653-1500 Telephone (352) 336-5600 Fax (352) 336-6603



MAY 15 2003



BUREAU OF AIR REGULATION

May 14, 2003

0337558

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

Attention: Mr. A.A. Linero, P.E., New Source Review Section

RE:

FLORIDA POWER & LIGHT COMPANY (FPL); PEAK MODE OPERATION

FORT MYERS PLAND AND SANFORD PLANT DEP FACILITY ID NOS. 0710002 AND1270009

MINOR SOURCE CONSTRUCTION PERMIT APPLICATIONS

Dear Al:

As recently discussed, please find enclosed 4 copies each of Air Construction Permit Applications for Peak Mode Operation of the General Electric Frame 7FA turbines located at the Fort Myers and Sanford Plants. As presented in the applications, the requests limit this mode of operation to no more than 400 hours per year, as the Department has authorized recently for other FPL combined cycle units using the same GE turbines (e.g. Manatee Unit 3 and Martin Unit 8). The increase in emissions will not trigger Prevention of Significant Deterioration (PSD) review as a result of the project emissions and contemporaneous emission decreases.

Please call Mary Archer [(561) 691-7057], Kevin Washington [(561) 691-2877] or me if you have any questions. An expeditious review would be appreciated.

Sincerely,

GOLDER ASSOCIATES INC.

Kennard F. Kosky, P.E.

Principal

KFK/jej

Enclosures

cc: Ms. Mary Archer, FPL Environmental Services w/enclosures

Mr. Kevin Washington, FPL Environmental Services w/enclosures

Mr. Bernie Tibble, FPL Fort Myers Plant w/enclosures

Mr. Randy Hopkins, FPL Sanford Plant

P:\Projects\2003\0337558 FPL Peak Mode\4\4.1\T051403.doc

RECEIVED

MAY 15 2003

BUREAU OF AIR REGULATION

PEAK FIRING MODE PERMIT APPLICATION FLORIDA POWER & LIGHT COMPANY FORT MYERS POWER PLANT - UNIT 2 FORT MYERS, FLORIDA

Prepared For: Florida Power & Light Company 700 Universe Boulevard Juno Beach, Florida 33408

Prepared By: Golder Associates Inc. 6241 NW 23rd Street, Suite 500 Gainesville, Florida 32653-1500

May 2003

0337558

DISTRIBUTION:

- 4 Copies FDEP
- 2 Copy Florida Power & Light Company
- 2 Copy Florida Power & Light Sanford Power Plant
- 1 Copy Golder Associates Inc.



Department of Environmental Protection ECEIVEL

Division of Air Resources Management

APPLICATION FOR AIR PERMIT - TITLE V SOURCE OF AIR REGULATION

I. APPLICATION INFORMATION

Identification of Facility

	entification of Facinity				
1.	Facility Owner/Company Name:				
	Florida Power and Light Company				
2.	Site Name:				
	Fort Myers Plant				
3.	Facility Identification Number:	07100	02		[] Unknown
4.	Facility Location:			JAC .	
	Street Address or Other Locator:	10650 Sta	te R	oad 80	
	City: Fort Myers	County: L	.ee		Zip Code: 33902
5.	Relocatable Facility?		6.	_	mitted Facility?
	[] Yes [X] No			[X] Yes	[] No
<u>A</u>	oplication Contact				
1.	Name and Title of Application Cor Kevin Washington, Senior Environm		ecia	list	
2.	Application Contact Mailing Addre Organization/Firm: FPL Environme		ices	Dept.	
	Street Address: 700 Universe B	IIvd.			
	City: Juno Beach	Sta	ite:	FL	Zip Code: 33408
3.	Application Contact Telephone Nu	mbers:			
	Telephone: (561)691-2877			Fax: (561)	691 - 7049
A	oplication Processing Information	(DEP Us	<u>se)</u>		
	Date of Receipt of Application:	3	/5	-03	
	Permit Number:			1002 -014-	
3.	. PSD Number (if applicable):				
4.	Siting Number (if applicable):				

Purpose of Application

Air Operation Permit Application

Th	is	Application for Air Permit is submitted to obtain: (Check one)
[]	Initial Title V air operation permit for an existing facility which is classified as a Title V source.
[]	Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.
		Current construction permit number:
[,]	Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.
		Current construction permit number:
		Operation permit number to be revised:
[]	Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)
		Operation permit number to be revised/corrected:
[]	Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.
		Operation permit number to be revised:
		Reason for revision:
Aiı	r (Construction Permit Application
Th	is	Application for Air Permit is submitted to obtain: (Check one)
[X]	Air construction permit to construct or modify one or more emissions units.
]]	Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.
[]	Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative or Responsible Official

1.	Name and Title of Owner/Authorized Representative or Respons	ible Official:
	William Reichel, Plant General Manager	

2. Owner/Authorized Representative or Responsible Official Mailing Address:

Organization/Firm: FPL Fort Myers Plant

Street Address:

P.O. Box 430

City: Fort Myers

State: FL

Zip Code: 3390 2

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:

Telephone: (239) 693 - 4200

Fax: (239) 693 - 4333

4. Owner/Authorized Representative or Responsible Official Statement:

I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.

Www.cihl Signature 5/9/03

Date

Professional Engineer Certification

1. Professional Engineer Name: Kennard F. Kosky

Registration Number: 14996

2. Professional Engineer Mailing Address:

Organization/Firm: Golder Associates Inc.*

Street Address: 6241 NW 23rd Street, Suite 500

State: FL

Zip Code: 32653

3. Professional Engineer Telephone Numbers:

Telephone: (352) 336 - 5600

City: Gainesville

Fax: (352)336-6603

*Certification of Authorization #00001670

^{*} Attach letter of authorization if not currently on file.

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein*, that:

- (1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and
- (2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [], if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [], if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

construction permit and with all provisions contained in such permit.	
Demal 7.19 5/14/03	_
Signature Date	
(seal)	
Attach any exception to certification statement.	
NO. 19896	

Scope of Application

Emissions		Permit	Processing
Unit ID	Description of Emissions Unit	Туре	Fee
018	Combustion Turbine Generator 2A with Unfired Heat Recovery Steam Generator	AC1B	NA
019	Combustion Turbine Generator 2B with Unfired Heat Recovery Steam Generator	AC1B	NA
020	Combustion Turbine Generator 2C with Unfired Heat Recovery Steam Generator	AC1B	NA
021	Combustion Turbine Generator 2D with Unfired Heat Recovery Steam Generator	AC1B	NA
022	Combustion Turbine Generator 2E with Unfired Heat Recovery Steam Generator	AC1B	NA
023	Combustion Turbine Generator 2F with Unfired Heat Recovery Steam Generator	AC1B	NA
·			
	·		

Application Processing Fee

Check one: [Attached - Amount: \$	[X] Not Applicable
--------------	-----------------------	--------------------

<u>C</u> (onstruction/Modification Information
1.	Description of Proposed Project or Alterations:
	This application is requesting a construction permit to operate the combustion turbines associated with Units 2A through 2F in peak firing mode for up to 400 hours per year. See Part II.
2.	Projected or Actual Date of Commencement of Construction: June 1, 2003
3.	Projected Date of Completion of Construction: Dec 31, 2003
A	oplication Comment
	See Part II.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1.	Facility UTM Coor	dinates:		
	Zone: 17	East (km):	: 422.3 Nort	th (km): 2952.9
2.	Facility Latitude/Lo Latitude (DD/MM/		Longitude (DD/MM	M/SS): 81 / 46 / 55
3.	Governmental Facility Code: O	4. Facility Status Code: A	5. Facility Major Group SIC Code: 49	6. Facility SIC(s): 4911
_	- 111. A			

7. Facility Comment (limit to 500 characters):

The existing steam generating units (Units 1&2) that burned residual fuel oil (including provisions for used oil) were replaced with 6 advanced combustion turbines burning natural gas. The current configuration is a combined cycle unit that consists of 6 combustion turbines, and 6 heat recovery steam generators (HRSGs) which provide steam for the existing steam turbines from Units 1&2. The 12 simple cycle combustion turbines (GT Units 1-12) which burn #2 diesel oil or on-specification used oil from Florida Power & Light Company operations remain as peaking units.

Facility Contact

ſ	1.	Name and Title of Facility Contact:
		Mr. Bernie Tibble, Environmental Specialist
Ī	2.	Facility Contact Mailing Address:
ı		Organization/Firm: FPI Fort Myers Plant

Organization/Firm: FPL Fort Myers Plan

Street Address: PO Box 430

City: Fort Myers State: FL Zip Code: 33902

3. Facility Contact Telephone Numbers:

Telephone: (239) 693 - 4390 Fax: (239) 693 - 4333

Facility Regulatory Classifications

Check	all	that	ap	ply:
-------	-----	------	----	------

1. [] Small Business Stationary Source? [] Unknown
2. [X] Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?
3. [] Synthetic Minor Source of Pollutants Other than HAPs?
4. [] Major Source of Hazardous Air Pollutants (HAPs)?
5. [] Synthetic Minor Source of HAPs?
6. [X] One or More Emissions Units Subject to NSPS?
7. [] One or More Emission Units Subject to NESHAP?
8. [] Title V Source by EPA Designation?
9. Facility Regulatory Classifications Comment (limit to 200 characters):
The combustion turbines are subject to NSPS Subpart GG.
List of Applicable Regulations
Facility applicable regulations are listed in the existing Title V permit. No additional facility
applicable requirements will result from approval of this construction application.

Facility applicable regulations are listed in the existing Title V permit. No additional facility					
applicable requirements will result from approval of this construction application.					
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		-			

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap		4. Basis for Emissions	5. Pollutant Comment
Limited	Cidssii.	lb/hour	tons/year	Cap	Comment
				-	
				·	
					·

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1 .	Area Map Showing Facility Location:	
	[] Attached, Document ID:	[X] Not Applicable [] Waiver Requested
2.	Facility Plot Plan:	
	[] Attached, Document ID:	[X] Not Applicable [] Waiver Requested
3.	Process Flow Diagram(s):	
	[] Attached, Document ID:	[X] Not Applicable [] Waiver Requested
4.	Precautions to Prevent Emissions of Un	confined Particulate Matter:
	[] Attached, Document ID:	_ [X] Not Applicable [] Waiver Requested
5.	Fugitive Emissions Identification:	
	[] Attached, Document ID:	_ [X] Not Applicable [] Waiver Requested
6.	Supplemental Information for Construc	tion Permit Application:
	[X] Attached, Document ID: Part II	[] Not Applicable
7.	Supplemental Requirements Comment:	
1		

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities:
[] Attached, Document ID: [X] Not Applicable
O List of Equipment / Astinition Download during Title VI.
9. List of Equipment/Activities Regulated under Title VI:
[] Attached, Document ID:
[] Equipment/Activities On site but Not Required to be Individually Listed
[x] Not Applicable
10. Alternative Methods of Operation:
[] Attached, Document ID: [X] Not Applicable
11. Alternative Modes of Operation (Emissions Trading):
[] Attached, Document ID: [X] Not Applicable
12. Identification of Additional Applicable Requirements:
[] Attached, Document ID: [X] Not Applicable
13. Risk Management Plan Verification:
[] Plan previously submitted to Chemical Emergency Preparedness and Prevention Office (CEPPO). Verification of submittal attached (Document ID:) or
previously submitted to DEP (Date and DEP Office:)
[] Plan to be submitted to CEPPO (Date required:
[X] Not Applicable
14. Compliance Report and Plan:
[] Attached, Document ID: [X] Not Applicable
15. Compliance Certification (Hard-copy Required):
[] Attached, Document ID: [X] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION (All Emissions Units)

Emissions Unit Description and Status

Emissions Unit Description and Status					
1. Type of Emissions Unit Addressed in Th	is Section: (Check one)				
[] This Emissions Unit Information Section process or production unit, or activity, which has at least one definable emissions.	which produces one or more				
[X] This Emissions Unit Information Section process or production units and activitity (stack or vent) but may also produce full the section of the sectio	es which has at least one defi-				
[] This Emissions Unit Information Section process or production units and activities	,	•			
2. Regulated or Unregulated Emissions Uni	it? (Check one)				
[X] The emissions unit addressed in this Enemissions unit.	missions Unit Information Sec	ction is a regulated			
[] The emissions unit addressed in this Er emissions unit.	missions Unit Information Sec	ction is an unregulated			
3. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Combustion Turbines 2A through 2F					
4. Emissions Unit Identification Number: [] No ID ID: 018-023					
5. Emissions Unit Status Code: A 6. Initial Startup Date: OCT 2000	7. Emissions Unit Major Group SIC Code: 49	8. Acid Rain Unit? [X]			
9. Emissions Unit Comment: (Limit to 500	9. Emissions Unit Comment: (Limit to 500 Characters)				
The emission units are six General Electric (GE) Frame 7FA Advanced CTs. Unit 2 will use natural gas in peak firing mode. Nameplate ratings, heat input, emissions, etc., are the same for each CT.					

Emissions Unit Information Section1_	of 1 Combustion Turbines 2A thru 2
Emissions Unit Control Equipment	
Control Equipment/Method Description (Lim	it to 200 characters per device or method):
Dry Low NO _x Combustors	
•	
2. Control Device or Method Code(s): 025	
Emissions Unit Details	
Package Unit: Manufacturer: General Electric	Model Number: 7FA
2. Generator Nameplate Rating: 18	
3. Incinerator Information:	
Dwell Temperature:	°F
Dwell Time:	seconds
Incinerator Afterburner Temperature:	°F

Emissions Unit Information Section	1	of	1	Combustion Turbines 2A thru 2F
Emissions only interior occion	-	VI.	-	+ + · · · · · · · · · · · · · · · · · ·

B. EMISSIONS UNIT CAPACITY INFORMATION (Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1.	Maximum Heat Input Rate:		1,918	mmBtu/hr
2.	Maximum Incineration Rate:	lb/hr		tons/day
3.	Maximum Process or Throughp	out Rate:		
4.	Maximum Production Rate:			
5.	Requested Maximum Operating	g Schedule:		
		hours/day		days/week
		weeks/year	400	hours/year
6.	Operating Capacity/Schedule C	Comment (limit to 200 ch	naracters):	
	Maximum heat input for peak fit 35 degrees Fahrenheit (°F), 20% Value (HHV). Generator namep	relative humidity, and 1	4.7 psia. Heat	input as High Heating

Emissions Unit Information Section1 of1 Combustion Turbines 2A thru 2F				
C. EMISSIONS UNIT REGULATIONS (Regulated Emissions Units Only)				
List of Applicable Regulations				
Applicable regulations do not change as a result of this construction permit application.				

DEP Form No. 62-210.900(1) - Form Effective: 2/11/99

D. EMISSION POINT (STACK/VENT) INFORMATION (Regulated Emissions Units Only)

Emission Point Description and Type

Identification of Point on Plant Flow Diagram?	ot Plan or	2. Emission Point Type Code: 3					
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):							
Unit can exhaust through C	Unit can exhaust through CT and HRSG stacks.						
4. ID Numbers or Description	s of Emission U	nits with this Emi					
5. Discharge Type Code:	6. Stack Heig		7. Exit Diameter:				
V		125 feet	19 feet				
8. Exit Temperature:	9. Actual Vol	umetric Flow	10. Water Vapor:				
220 °F	Rate:		8.6 %				
11 Mariana Day Charles 151		6,915 acfm	ii D-it II-i-l-t				
11. Maximum Dry Standard Flo 738,680		12. Nonstack Et	mission Point Height: feet				
13. Emission Point UTM Coord	linates:		-				
Zone: 17 E	Zone: 17 East (km): 468.3 North (km): 3190.3						
14. Emission Point Comment (limit to 200 char	acters):					
			, and turbine inlet of 59°F. All CTs equipped with inlet				

Emissions Unit Information Section	1	of	1	Combustion Turbines 2A thru	ı 2l
Emissions Onli miormanon section		VI.	•	Combastion Tarbinos Ert and	

E. SEGMENT (PROCESS/FUEL) INFORMATION (All Emissions Units)

Segment Description and Rate: Segment 1 of 1

50,	Segment Description and Nate. Segment 1 of 1						
1.	Segment Description (Process/Fuel Type) (limit to 500 characters):						
	Natural Gas						
2.	Source Classification Code	e (SCC):	3. SCC Units	:			
-	2-01-002-01		Million Cub		eet		
4.	Maximum Hourly Rate: 1.92	5. Maximum A 718	Annual Rate:	6.	Estimated Annual Activity Factor:		
7.	Maximum % Sulfur:	8. Maximum %	6 Ash:	9.	Million Btu per SCC Unit: 1,024		
10.	Segment Comment (limit t	to 200 characters)	•				
	Maximum Hourly Rate = 1,9						
	Annual based on 59°F turb	ine inlet (1,838 M	MBtu/hr). Millio	n Btı	u/SCC as HHV.		
<u>Se</u>	gment Description and Ra	te: Segment	of				
1.	1. Segment Description (Process/Fuel Type) (limit to 500 characters):						
2.	2. Source Classification Code (SCC): 3. SCC Units:						
4.	Maximum Hourly Rate: 5. Maximum Annual Rate: 6. Estimated Annual Activity Factor:						
7.	7. Maximum % Sulfur: 8. Maximum % Ash: 9. Million Btu per SCC Unit:						
10.	Segment Comment (limit t	to 200 characters)	:	ı			

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Emissions Unit Information Section 1 of 1 Combustion Turbines 2A	formation Section 1 of 1 Combustion Turbines	2A thru	2 F
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F. EMISSIONS UNIT POLLUTANTS (All Emissions Units)

1. Pollutant Emitted	Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			WP
SO ₂			WP
NO _x	025		EL
со			EL
voc			EL

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Emissions Unit Information Section	1	of _	1	Combustion Turbines 2A thru 2F
Pollutant Detail Information Page	1.	of	5	Particulate Matter - Total

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION (Regulated Emissions Units Emissions-Limited and Preconstruction Review Pollutants Only)

Pot	ential/Fugitive Emissions							
1.	Pollutant Emitted:	2.	Γota	l Percent Effici	ency	of Control	:	
	PM							
3.	Potential Emissions:				4.	Synthetica	ılly	
	9 lb/hour	1	.8	tons/year		Limited?	[X]	
5.	Range of Estimated Fugitive Emissions:				,			
				to to	ns/ye			
6.	Emission Factor: 9 lb/hr				7.	Emissions Method Co		
	Reference: GE, 2000					2	oue.	
8.	Calculation of Emissions (limit to 600 chara	cters):					
	See Part II.							
	See Fait II.							
						•		
9.	Pollutant Potential/Fugitive Emissions Com	ment	(lim	it to 200 charac	ters)):		
	Potential emissions for one (1) CT and peak firing mode.							
	rotential emissions for one (1) of and peak	ıııııy	moc	ie.		•		
	Allowable Emissions Allowable Emissions 1 of 1							
			_					
1.	Basis for Allowable Emissions Code: OTHER	2.		ure Effective D issions:	ate o	f Allowable	e	
3.	Requested Allowable Emissions and Units:	4.		ivalent Allowa	ble F	Emissions:		
	10% Opacity		-1-	9 lb/hour		1.8 tons/y	ear/	
5.	Method of Compliance (limit to 60 characte	rs):		<u> </u>				
	• .	/-						
	EPA Method 9							
6.	Allowable Emissions Comment (Desc. of O	perat	ing l	Method) (limit	to 20	0 character	s):	
	Peak firing mode with natural gas. Equivaler	nt allo	wab	le emissions fo	r one	e (1) CT.		
	5					. ,		
				,				

Emissions Unit Information Section	1	of	1	Combustion Turbines 2A thru 2F
Pollutant Detail Information Page	2	of	5	Sulfur Dioxide

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION (Regulated Emissions Units -

Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions							
1. Pollutant Emitted:	2. Tota	l Percent Effic	iency of Control:				
SO ₂							
3. Potential Emissions:			4. Synthetically				
5.1 lb/hour	1.02	tons/year	Limited? [X]				
5. Range of Estimated Fugitive Emissions:		to to	ons/year				
6. Emission Factor: 1 grain S/100 cf Gas			7. Emissions				
Reference: GE, 2000; Golder, 2003			Method Code: 2				
8. Calculation of Emissions (limit to 600 char-	acters):						
See Part II.							
9. Pollutant Potential/Fugitive Emissions Con	9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):						
Potential emissions for one (1) CT and peak firing mode.							
Potential emissions for one (1) C1 and peak	ming mod						
Allowable Emissions 1 of 1							
Basis for Allowable Emissions Code: OTHER	4	ure Effective Dissions:	Pate of Allowable				
3. Requested Allowable Emissions and Units:			able Emissions:				
		5.1 lb/hour	1.02 tons/year				
5. Method of Compliance (limit to 60 characte	ers):						
Fuel Sampling; Vendor Sampling Pipeline Q	uality Natu	ıral Gas					
6. Allowable Emissions Comment (Desc. of C	perating l	Method) (limit	to 200 characters):				
Equivalent allowable emissions for one (1) (sulfur content. Peak firing mode with natura		ible based on t	ypical maximum fuel				

Emissions Unit Information Section	1	of	1	Combustion Turbines 2A thru 2F
Pollutant Detail Information Page	3	of _	5	Nitrogen Oxides

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION (Regulated Emissions Units -

Emissions-Limited and Preconstruction Review Pollutants Only)

Cotal Percent Efficience 24 tons/year to ton (limit to 200 charace)	4. Synthetically Limited? [X] ns/year 7. Emissions Method Code: 2					
toto	Limited? [X] ns/year 7. Emissions Method Code: 2					
toto	Limited? [X] ns/year 7. Emissions Method Code: 2					
toto	ns/year 7. Emissions Method Code: 2					
:	7. Emissions Method Code: 2					
:	7. Emissions Method Code: 2					
	Method Code: 2					
	2					
	ters):					
(limit to 200 charac	ters):					
(limit to 200 charac	ters):					
(limit to 200 charac	ters):					
(limit to 200 charac	ters):					
(limit to 200 charac	ters):					
(limit to 200 charac	ters):					
(limit to 200 charac	ters):					
Potential emissions for one (1) CT and peak firing mode.						
mode.						
of <u>1</u>						
Future Effective Da Emissions:	ite of Allowable					
Equivalent Allowal	ole Emissions:					
101.2 lb/hour	20.24 tons/year					
N(-4h o d) (limit t	a 200 aharaatara).					
	o 200 characters):					
ng Method) (nimit to						
, ,						
	•					
	Emissions: Equivalent Allowate 101.2 lb/hour ing Method) (limit to					

Emissions Unit Information Section	1	_ of _	1	Combustion Turbines 2A thru 2F
Pollutant Detail Information Page	4	of	5	Carbon Monoxide

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION (Regulated Emissions Units -Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions						
1. Pollutant Emitted:	2. Total Percent Efficiency of	f Control:				
со						
3. Potential Emissions:	4. S	ynthetically				
28.9 lb/hour	5.78 tons/year L	imited? [X]				
5. Range of Estimated Fugitive Emissions:						
6. Emission Factor: 9 ppmvd	_ · · · _	missions Method Code:				
Reference: GE, 2000	2					
8. Calculation of Emissions (limit to 600 cl	naracters):					
See Part II.						
See Fart II.						
9. Pollutant Potential/Fugitive Emissions C	Comment (limit to 200 characters):					
B						
Potential emissions for one (1) CT and pe	eak tiring mode.					
Allowable Emissions Allowable Emissions	s of1					
1. Basis for Allowable Emissions Code:	2. Future Effective Date of A	Allowable				
OTHER	Emissions:	• •				
3. Requested Allowable Emissions and Un		ussions:				
9 ppmvd	28.9 lb/hour 5.78	tons/year				
5. Method of Compliance (limit to 60 chara	acters):					
EPA Method 10; Annual Test						
EPA Method To; Annual Test						
6. Allowable Emissions Comment (Desc. o	of Operating Method) (limit to 200	characters):				
Peak firing mode with natural gas. Equiv	alant allowable emissions for one (1) CT				
Toak ming mode with natural gas. Equiv	alent allowable enlissions for one (ı, v ı.				

Emissions Unit Information Section	1	of _	1	Combustion Turbines 2A thru 2F
Pollutant Detail Information Page	5	of	5	Volatile Organic Compounds

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION (Regulated Emissions Units Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions						
1. Pollutant Emitted:	2. Total Percent Efficiency of Control:					
voc						
3. Potential Emissions:	4. Synthetically					
2.81 lb/hour	0.56 tons/year Limited? [X]					
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3	to tons/year					
6. Emission Factor: 1.4 ppmvw	7. Emissions					
Reference: GE, 2000	Method Code:					
·	2					
8. Calculation of Emissions (limit to 600 chars	acters).					
See Part II.						
	•					
9. Pollutant Potential/Fugitive Emissions Com	ament (limit to 200 characters):					
Potential emissions for on (1) CT and peak firing mode.						
Allowable Emissions Allowable Emissions	1 of 1					
Basis for Allowable Emissions Code: OTHER	Future Effective Date of Allowable Emissions:					
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions:					
1.4 ppmvw	2.81 lb/hour 0.56 tons/year					
5. Method of Compliance (limit to 60 character	ers):					
EPA Method 18 or 25A; Initial Compliance To	est only					
6. Allowable Emissions Comment (Desc. of Comment	Operating Method) (limit to 200 characters):					
Equivalent allowable emissions for one (1) (CT. Peak firing mode with natural gas.					

Emissions Unit Inform	nation Section1	of1_ Combusti	ion Turbines 2A thru 2F
(Only R		IONS INFORMATION Inits Subject to a VE Lim	itation)
Visible Emissions Lim	itation: Visible Emissi	ions Limitation 1 of	2
1. Visible Emissions S VE10	ubtype:	Basis for Allowable (Opacity: [X]
3. Requested Allowabl Normal Conditions: Maximum Period of		cceptional Conditions:	% min/hour
4. Method of Complian	nce:		
Annual VE Test - EP	A Method 9.	•	
5. Visible Emissions C	Comment (limit to 200 c	haracters):	
Peak Firing Mode wi	th Natural Gas		
		NITOR INFORMATION S Subject to Continuous M	
Continuous Monitorin		_	iomtoring)
Parameter Code: EN	·····		_
1. Parameter Code: En	П	2. Pollutant(s): NO _x	
3. CMS Requirement:		[X] Rule	[] Other
Model Number: N Serial Number: N 2A= 4: 2B= 4: 2C= 4: 2D= 4: 2F= 4:	O_x = Thermo Environme O_x = 42C; O_2 = 1400 O_x O_2 2CLS-76494-383 01 2CLS-76496-383 01 2CLS-76495-383 01 2CHL-66131-351 01 2CHL-65868-350 01	420C/1302 420C/1304 420C/1402 420C/1403 420C/1466 420C/1444	
(Original NO _x replace	<u> </u>	6. Performance Specific 19 DEC 2002 (2A); 18 18 DEC 2002 (2C); 12 03 APR 2001 (2E); 31	DEC 2002 (2B); APF 2001 (2D);
7. Continuous Monitor	Comment (limit to 200	0 characters):	

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CEMs meet requirements of 40 CFR Part 75.

En	nissions Unit Information Section1	of 1 Combustion Turbines 2A thru 2F
		IONS INFORMATION nits Subject to a VE Limitation)
<u>Vis</u>	sible Emissions Limitation: Visible Emission	ons Limitation 2 of 2
	Visible Emissions Subtype: VE99	2. Basis for Allowable Opacity: [X] Rule [] Other
3.	Requested Allowable Opacity: Normal Conditions:	ceptional Conditions: 100 % ed: 60 min/hour
4.	Method of Compliance: None	
5.	Visible Emissions Comment (limit to 200 cl	naracters):
	FDEP Rule 62-210.700(1). Allowed for 2 hourshutdown, and malfunction. (Note: Allowan Title V permit.)	rs (120 minutes) per 24 hours for start-up, ce for cold startup and shutdown specified by
Co		NITOR INFORMATION Subject to Continuous Monitoring) Monitor of
	Parameter Code:	2. Pollutant(s):
3. Otl	CMS Requirement:	[] Rule []
4.	Monitor Information: Manufacturer: Model Number: Serial Number:	
5.	Installation Date:	6. Performance Specification Test Date:
7.	Continuous Monitor Comment (limit to 200	characters):

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Emissions Unit Information Section 1	of	1	Combustion Turbines 2A thru 2F
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J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION (Regulated Emissions Units Only)

Supplemental Requirements

1.	Process Flow Diagram
	[] Attached, Document ID: [X] Not Applicable [] Waiver Requested
2.	Fuel Analysis or Specification
	[] Attached, Document ID: [] Not Applicable [] Waiver Requested
3.	Detailed Description of Control Equipment
	[] Attached, Document ID: [X] Not Applicable [] Waiver Requested
4.	Description of Stack Sampling Facilities
	[] Attached, Document ID: [X] Not Applicable [] Waiver Requested
5.	Compliance Test Report
	[] Attached, Document ID:
	[] Previously submitted, Date:
	[X] Not Applicable
6.	Procedures for Startup and Shutdown
	[] Attached, Document ID: [X] Not Applicable [] Waiver Requested
7.	Operation and Maintenance Plan
	[] Attached, Document ID: [X] Not Applicable [] Waiver Requested
8.	Supplemental Information for Construction Permit Application
	[X] Attached, Document ID: Part II [] Not Applicable
9.	Other Information Required by Rule or Statute
* .	[] Attached, Document ID: [X] Not Applicable
	[]
10	. Supplemental Requirements Comment:

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Emissions Unit Information Section	1	of	1	Combustion Turbines 2A thru 2F
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Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[] Attached, Document ID: [X] Not Applicable
12. Alternative Modes of Operation (Emissions Trading)
[] Attached, Document ID: [X] Not Applicable
[] Attached, Document ID [X] Not Applicable
13. Identification of Additional Applicable Requirements
[] Attached, Document ID: [X] Not Applicable
14. Compliance Assurance Monitoring Plan
[] Attached, Document ID: [x] Not Applicable
15. Acid Rain Part Application (Hard-copy Required)
[] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:
[] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:
[] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:
[] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:
Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:
[] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:
[X] Not Applicable

PART II

APPLICATION FOR AIR CONSTRUCTION PERMIT
FORT MYERS UNITS 2A THROUGH 2F
PEAK FIRING MODE

APPLICATION FOR AIR CONSTRUCTION PERMIT FORT MYERS UNITS 2A THROUGH 2F PEAK FIRING OPERATION

Introduction

The Florida Power & Light Company (FPL) Fort Myers Plant is located on approximately 460 acres 2.5 miles east of Tice, Lee County, Florida. In November 1998, an Air Construction Permit was issued for the installation of six nominal 170-megawatt (MW) combustion turbines (CTs) with an associated heat recovery steam generators (HRSGs) for repowering two existing steam electric generators (Florida Department of Environmental Protection (DEP) File No. 0710002-004-AC]. The CTs are designated as Units 2A through 2F. The combustion turbines are General Electric (GE) Frame 7FA (Model PG7241) that are authorized to fire natural gas. Dry low-nitrogen oxides (NO_x) combustion technology is used to control emissions of NO_x to 9 parts per million by volume dry (ppmvd) corrected to 15-percent oxygen when firing natural gas. The CTs are equipped with inlet evaporative cooling systems.

This application is submitted to request authorization to allow operation in Peak Firing Mode for up to 400 hours per year.

Peak Firing Mode

Peak Firing Mode operation is a computer-controlled increase in firing temperature with greater heat input and output. It is a standard operating feature of the GE Frame 7FA CT when firing natural gas. The increase in power and heat input is about 3.8 percent at ISO conditions. The heat rate of the unit decreases by about 25 British thermal units per kilowatt-hour (Btu/Kw-hr) or about 0.3 percent. This mode of operation has been authorized for more recent projects including Martin Simple Cycle Units 8A and 8B, Fort Myers Simple Cycle Units 3A and 3B, Martin Combined Cycle Unit 8, and Manatee Combined Cycle Unit 3. Operation of up to 400 hours per year operation has been authorized.

Appendix A contains performance and emissions data and calculations for Peak Firing Mode at turbine inlet temperatures of 35 degrees Fahrenheit (°F), 59°F, 75°F, and 95°F. Appendix A also contains the GE estimated performance and emissions for Peak Firing Mode. For comparison, GE estimated performance for base load operation at 59°F is also contained in Appendix A.

Table 1 presents the hourly and annual emissions for particulate matter/particulate matter less than 10 microns (PM/PM₁₀), sulfur dioxide (SO₂), NO_x, carbon monoxide (CO), and volatile organic compounds (VOCs) for Peak Firing mode and baseload operation. Emissions are presented for each CT and the six CTs associated with Units 2A through 2F. As previously noted, Peak Firing Mode is a computer-controlled operation that increases firing temperature from baseload operation. As a result, emission increases are an incremental increase from baseload, since baseload operation must occur when peak mode begins. Peak Firing Mode only provides an incremental increase in power to meet electric demands that could not otherwise be provided by baseload operation.

Regulatory Applicability

Peak Firing Mode is a change in the method of operation of CTs. A modification would occur if there is a net emissions increase pursuant to Rule 62-212.400(2)(e)1 Florida Administrative Code (F.A.C.): "A modification to a facility results in a net emissions increase when, for a pollutant regulated under the Act, the sum of all of the contemporaneous creditable increases and decreases in the actual emissions of the facility, including the increase in emissions of the modification itself and any increases and decreases in quantifiable fugitive emissions, is greater than zero." Pursuant to Rule 62-212.400(2)(e)2: "A significant net emissions increase of a pollutant regulated under the Act is a net emissions increase equal to or greater than the applicable significant emission rate listed in Table 212.400-2, Regulated Air Pollutants - Significant Emission Rates."

The EPA guidance regarding PSD applicability clearly indicates that applicability is pollutant specific. In addition, if the emissions for a project are less than the significant emission rates, then PSD review is not applicable [U.S. Environmental Protection Agency (EPA) Draft New Source Review Workshop Manual, October 1990, Table A-5]. If the significant impact levels are exceeded for that pollutant, then contemporaneous emission increases and decreases are evaluated. Based on Rule 62-212.400(2)(e)3 F.A.C., contemporaneous emissions changes are: "An increase or decrease in the actual emissions or in the quantifiable fugitive emissions of a facility is contemporaneous with a particular modification if it occurs within the period beginning five years prior to the date on which the owner or operator of the facility submits a complete application for a permit to modify the facility and ending on the date on which the owner or operator of the modified facility projects the new or modified emissions unit(s) to begin operation. The date on which any increase in the actual emissions or in the quantifiable fugitive emissions of the facility occurs is the date on which the owner or operator of the facility begins, or projects to begin, operation of the emissions unit(s) resulting in the increase. The date on which any decrease in the actual emissions or in the quantifiable fugitive

emissions of the facility occurs is the date on which the owner or operator of the facility completes, or is committed to complete through a federally enforceable permit condition, a physical change in or change in the method of operation of the facility resulting in the decrease."

Table 1 shows that, with the exception of NO_x, the emissions from the project are below the significant emission rates. This conclusion is evident whether a comparison of project emissions and significant emission rates is made using the difference between peak firing and baseload or by using the total emissions for Peak Firing Mode with all six CTs.

The Fort Myers Plant has had creditable emission decreases over the last several years resulting from shutting down the existing residual oil fired steam generating units (i.e., steam generators for Units 1 and 2). The steam generators for Units 1 and 2 were retired in August 31 and September 1, 2001, respectively. The emission reductions from these retirements are contemporaneous with the proposed Peak Firing mode. Peak Firing is scheduled to be completed within 2003, which is well within the 5-year contemporaneous period for the creditable reductions from the Units 1 and 2 steam generators. Table 2 presents a netting analysis for NO_x. As shown, the large net emissions decreases in NO_x offset the small increases from peak firing.

Table 1. Emissions for Peak Firing and Base Load at a Turbine Inlet Temperature of 59°F FPL Fort Myers Plant, Units 2A through 2F

		Peak Firin	g at 59 °F	Base Load	at 59 °F		
Pollutant		per CT	6 CTs	per CT	6 CTs	Difference	SER ^b
PM/PM ₁₀	lb/hr	9	54	9	54		
	TPY ^a	1.8	10.8	1.8	10.8	0	15/25
SO_2	lb/hr	5.1	30.6	4.9	29.4		
	TPY ^a	1.02	6.12	0.98	5.88	0.24	40
NO _x	lb/hr	101.2	607.2	58.7	352.2		
	TPY ^a	20.24	121.44	11.74	70.44	51	40
СО	lb/hr	28.9	173.4	28.8	172.8		
	TPY ^a	5.78	34.68	5.76	34.56	0.12	100
VOC	lb/hr	2.81	16.86	2.79	16.74		
	TPY ^a	0.562	3.372	0.558	3.348	0.024	40

^a TPY = tons/year; reflects a maximum of 400 hours per year operation.

Source: GE, 2000; Golder, 2003.

^b SER = significant emission rate from Table 212.400-2 F.A.C.

Table 2. Net NO_x Emission Changes for Fort Myers Plant

Pollutant	Actual Emissions	Repowering Project ^a	Gas Turbines 1 through 12 Foggers ^b	Units 3A and 3B ^c	Peak Operation	Net Emission Change	SER ^d	PSD Review Applicable?
NO _x	7,905.0	1,845.0	24.2	741.0	51.0	-5,243.8	40	No Net Emission Increase

^a FDEP File No. 0710002-004-AC; 1,500-MW Repowering Project.

^b FDEP File No. 0710002-005-AC; Inlet Fogger Installation for Emission Units 003 through 014.

^c FDEP File No. 0710002-009-AC; 1,500-MW Simple Cycle Project.

^d SER = Significant emission rates from Table 212.400-2 F.A.C.

APPENDIX A

Table A-1. Design Information and Stack Parameters for GE Frame 7FA, Dry Low NO_x Combustor, Natural Gas Peak Firing Mode

	Α	mbient Inlet Tem	perature	
Parameter	35 °F	59 °F	75 °F	95 °F
Combustion Turbine Performance				
Net power output (MW)	190.3	179.5	169.5	156.1
Net heat rate (Btu/kWh, LHV)	9,080	9,225	9,370	9,595
(Btu/kWh, HHV)	10,079	10,240	10,401	10,651
Heat Input (MMBtu/hr, LHV)	1,728	1,656	1,588	1,498
(MMBtu/hr, HHV)	1,918	1,838	1,763	1,663
Fuel heating value (Btu/lb, LHV)	20,835	20,835	20,835	20,835
(Btu/lb, HHV)	23,127	23,127	23,127	23,127
(HHV/LHV)	1.110	1.110	1.110	1.110
CT Exhaust Flow			•	
Mass Flow (lb/hr)- with no margin	3,713,000	3,558,000	3,413,000	3,238,000
- provided	3,713,000	3,558,000	3,413,000	3,238,000
Temperature (°F)	1,109	1,139	1,152	1,172
Moisture (% Vol.)	7.74	8.59	9.25	10.16
Oxygen (% Vol.)	12.39	12.20	12.12	11.99
Molecular Weight	28.48	28.38	28.31	28.21
Fuel Usage				
Fuel usage (lb/hr) = Heat Input (MMBtu/hr) x 1,000	0,000 Btu/MMBtu	(Fuel Heat Conto	ent, Btu/lb (LHV))	
Heat input (MMBtu/hr, LHV)	1,728	1,656	1,588	1,498
Heat content (Btu/lb, LHV)	20,835	20,835	20,835	20,835
Fuel usage (lb/hr)- calculated	82,933	79,477	76,228	71,889
HRSG Stack				
CT- Stack height (ft)	125	125	125	125
Diameter (ft)	19	19	19	19
Turbine Flow Conditions		•		
Turbine Flow (acfm) = [(Mass Flow (lb/hr) x 1,545				
Mass flow (lb/hr)	3,713,000	3,558,000	3,413,000	3,238,000
Temperature (°F)	1,109	1,139	1,152	1,172
Molecular weight	28.48	28.38	28.31	28.21
Volume flow (acfm)- calculated	2,488,641	2,438,274	2,363,849	2,279,045
(ft3/s)- calculated	41,477	40,638	39,397	37,984
Stack Flow Conditions - HRSG	12.41 6.44.55			
Velocity (ft/sec) = Volume flow (acfm) / [((diamete				
CT Temperature (°F)	220	220	220	220
CT volume flow (acfm)	1,078,570	1,036,915	997,157	949,602
Diameter (ft)	19	19	19	19
Velocity (ft/sec)- calculated	63.4	61.0	58.6	55.8

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft²; 14.7 lb/ft³

Turbine inlet relative humidity is 20% at 35 °F, 60% at 59 and 75 °F, and 50% at 95 °F.

Source: GE, 2000.

Table A-2. Maximum Emissions for Criteria Pollutants for GE Frame 7FA, Dry Low NOx Combustor, Natural Gas Peak Firing Mode

Emission rate (lb/hr)- provided 9. (TPY) 1.8 Sulfur Dioxide (lb/hr) = Natural gas (cf/hr) x sulfur content(gr/100 Fuel density (lb/ft³) 0.044 Fuel use (cf/hr) 1,851,83 Sulfur content (grains/ 100 cf)	9 90 0 9.0 0 1.80 0 cf) x 1 lb/7000 g 3 0.0448 9 1,774,675 1 1 2 2 3 5.1 6 1.01 00)] - Oxygen(%) np.(°F) + 460°F) 5 15 4 8.59 9 12.2 1 2,438,274 9 1,139 1 101.2	10 10.0 2.00 gr x (lb SO ₂ /lb S) 0.0448 1,702,119 1 2 4.9 0.97 3) x 2116.8 x Volu x 5.9 x 1,000,00 5 9.25 12.12 2,363,849 1,152	/100 0.0448 1,605,235 1 2 4.6 0.92 Ime flow (acfm) x 0 (adj. for ppm)] 15 10.16 11.99 2,279,045 1,172 91.1
Basis (excludes H_2 SO ₄), lb/hr Emission rate (lb/hr)- provided (TPY) 1.86 Sulfur Dioxide (lb/hr) = Natural gas (cf/hr) x sulfur content(gr/100 fuel density (lb/ft ³) 0.044 Fuel density (lb/ft ³) 1,851,83 Sulfur content (grains/ 100 cf) lb SO ₂ /lb S (64/32) Emission rate (lb/hr) 5. (TPY) 1.0 Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x (1 - Moisture(%)/1 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT term of the standard of the	9.0 1.80 1.80 1.80 1.80 1.80 1.80 1.80 1.80 1.80 1.774,675 1.774,675 1.774,675 1.85 1.85 1.95	10.0 2.00 ar x (lb SO ₂ /lb S) 0.0448 1,702,119 1 2 4.9 0.97 3) x 2116.8 x Volu x 5.9 x 1,000,00 5 15 9.25 12.12 2,363,849 1,152	10.0 2.00 /100 0.0448 1,605,235 1 2 4.6 0.92 Ime flow (acfm) x 0 (adj. for ppm)] 15 10.16 11.99 2,279,045 1,172 91.1
Emission rate (lb/hr)- provided (TPY) 1.8 Sulfur Dioxide (lb/hr) = Natural gas (cf/hr) x sulfur content(gr/100 fuel density (lb/ft³) 0.044 Fuel use (cf/hr) 1,851,83 Sulfur content (grains/ 100 cf) lb SO₂ /lb S (64/32) Emission rate (lb/hr) 5. (TPY) 1.0 Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x (1 - Moisture(%)/1 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT ten density (%) 12.3 furbine Flow (acfm) 12.488,64 Turbine Exhaust Temperature (°F) 1,10 Emission rate (lb/hr) 105. (TPY) 21. Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 21.	9.0 1.80 1.80 1.80 1.80 1.80 1.80 1.80 1.80 1.80 1.774,675 1.774,675 1.774,675 1.85 1.85 1.95	10.0 2.00 ar x (lb SO ₂ /lb S) 0.0448 1,702,119 1 2 4.9 0.97 3) x 2116.8 x Volu x 5.9 x 1,000,00 5 15 9.25 12.12 2,363,849 1,152	10.0 2.00 /100 0.0448 1,605,235 1 2 4.6 0.92 Ime flow (acfm) x 0 (adj. for ppm)] 15 10.16 11.99 2,279,045 1,172 91.1
Sulfur Dioxide (lb/hr) = Natural gas (cf/hr) x sulfur content(gr/100 Fuel density (lb/ft³) 0.044 Fuel use (cf/hr) 1,851,83 Sulfur content (grains/ 100 cf) lb SO_2 /lb S (64/32) Emission rate (lb/hr) 5. (TPY) 1.0 Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x (1 - Moisture(%)/1 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT ter Basis, ppmvd @15% O_2 1 Moisture (%) 7.7 Oxygen (%) 7.23 Turbine Flow (acfm) 2,488,64 Turbine Exhaust Temperature (°F) 1,10 Emission rate (lb/hr) 105. (TPY) 21. Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 21.	1.80 1.80 1.80 1.80 1.80 1.80 1.80 1.80	2.00 ar x (lb SO ₂ /lb S) 0.0448 1,702,119 1 2 4.9 0.97 x 2116.8 x Volu x 5.9 x 1,000,000 15 9.25 12.12 2,363,849 1,152	2.00 /100 0.0448 1,605,235 1 2 4.6 0.92 Ime flow (acfm) x 0 (adj. for ppm)] 15 10.16 11.99 2,279,045 1,172 91.1
Sulfur Dioxide (lb/hr) = Natural gas (cf/hr) x sulfur content(gr/100 full full full full full full full fu	3 0.0448 9 1,774,675 1 1 2 2 3 5.1 6 1.01 00)] - Oxygen(%) np.(°F) + 460°F) 5 15 4 8.59 9 12.2 1 2,438,274 9 1,139 1 101.2	0.0448 1,702,119 1 2 4.9 0.97 0.97 15 2 2,363,849 1,152	0.0448 1,605,235 1 2 4.6 0.92 ame flow (acfm) x 0 (adj. for ppm)} 15 10.16 11.99 2,279,045 1,172 91.1
Fuel density (lb/ft³) 0.044 Fuel use (cf/hr) 1,851,83 Sulfur content (grains/ 100 cf) Ib SO₂ /lb S (64/32) Emission rate (lb/hr) 5. (TPY) 1.0 Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x (1 - Moisture(%)/146 (mole. wgt NOx) x 60 min/hr / [1545 x (CT terestands) for the content of the	3 0.0448 9 1,774,675 1 1 2 2 3 5.1 6 1.01 00)] - Oxygen(%) np.(°F) + 460°F) 5 15 4 8.59 9 12.2 1 2,438,274 9 1,139 1 101.2	0.0448 1,702,119 1 2 4.9 0.97 0) x 2116.8 x Volu x 5.9 x 1,000,00 15 9.25 12.12 2,363,849 1,152	0.0448 1,605,235 1 2 4.6 0.92 ame flow (acfm) x 0 (adj. for ppm)} 15 10.16 11.99 2,279,045 1,172 91.1
Fuel use (cf/hr) 1,851,83 Sulfur content (grains/ 100 cf) Ib SO_2 /lb S (64/32) Emission rate (lb/hr) 5. (TPY) 1.0 Nitrogen Oxides (lb/hr) = $NOx(ppm) \times \{[20.9 \times (1 - Moisture(\%)/1 46 (mole. wgt NOx) \times 60 min/hr / [1545 \times (CT ten Moisture (\%)) 7.7 Oxygen (\%) 12.3 Turbine Flow (acfm) 2,488,64 Turbine Exhaust Temperature (°F) 1,10 Emission rate (lb/hr) 105. (TPY) 21. Carbon Monoxide (lb/hr) = CO(ppm) \times [1 - Moisture(\%)/100] \times 2.0 $	9 1,774,675 1 1 2 2 3 5.1 6 1.01 00)] - Oxygen(%) np.(°F) + 460°F) 5 15 4 8.59 9 12.2 1 2,438,274 9 1,139 1 101.2	1,702,119 1 2 4.9 0.97 3) x 2116.8 x Volu x 5.9 x 1,000,00 5 9.25 12.12 2,363,849 1,152	1,605,235 1 2 4,6 0.92 (adj. for ppm)] 15 10.16 11.99 2,279,045 1,172 91.1
Sulfur content (grains/ 100 cf) Ib SO ₂ /lb S (64/32) Emission rate (lb/hr) 5. (TPY) 1.0 Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x (1 - Moisture(%)/1 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT ter Basis, ppmvd @15% O ₂ 1 Moisture (%) 7.7 Oxygen (%) 12.3 Turbine Flow (acfm) 2,488,64 Turbine Exhaust Temperature (°F) 1,10 Emission rate (lb/hr) 105. (TPY) 21. Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 21.	1 1 2 2 3 5.1 6 1.01 00)] - Oxygen(%) np.(°F) + 460°F) 5 15 4 8.59 9 12.2 1 2,438,274 9 1,139 1 101.2	1 2 4.9 0.97 3) x 2116.8 x Volu x 5.9 x 1,000,00 5 9.25 12.12 2,363,849 1,152	1 2 4.6 0.92 (adj. for ppm)] 15 10.16 11.99 2,279,045 1,172 91.1
Ib SO ₂ /lb S (64/32) Emission rate (lb/hr) 5.	2 2 3 5.1 6 1.01 00)] - Oxygen(%) np.(°F) + 460°F) 5 15 4 8.59 9 12.2 1 2,438,274 9 1,139 1 101.2	2 4.9 0.97 0.97 2 2116.8 x Volu x 5.9 x 1,000,00 5 9.25 12.12 2,363,849 1,152	2 4.6 0.92 ame flow (acfm) x 0 (adj. for ppm)] 15 10.16 11.99 2,279,045 1,172 91.1
Emission rate (lb/hr) 5.	3 5.1 6 1.01 00)] - Oxygen(%) np.(°F) + 460°F) 5 15 4 8.59 9 12.2 1 2,438,274 9 1,139 1 101.2	4.9 0.97 0.97 0.97 2.116.8 x Volu x 5.9 x 1,000,00 15 9.25 12.12 2,363,849 1,152	4.6 0.92 ame flow (acfm) x 0 (adj. for ppm)} 15 10.16 11.99 2,279,045 1,172 91.1
(TPY) 1.0 Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x (1 - Moisture(%)/1 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT ter Basis, ppmvd @15% O ₂ 1 Moisture (%) 7.7 Oxygen (%) 12.3 Turbine Flow (acfm) 2,488,64 Turbine Exhaust Temperature (°F) 1,10 Emission rate (lb/hr) 105. (TPY) 21. Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 24	5 1.01 00)] - Oxygen(%) np.(°F) + 460°F) 5 15 4 8.59 9 12.2 1 2,438,274 9 1,139 1 101.2	0.97 x 2116.8 x Volu x 5.9 x 1,000,00 15 9.25 12.12 2,363,849 1,152	0.92 ume flow (acfm) x 0 (adj. for ppm)} 15 10.16 11.99 2,279,045 1,172 91.1
Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x (1 - Moisture(%)/1 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT ter Basis, ppmvd @15% O ₂ 1 Moisture (%) 7.7 Oxygen (%) 12.3 Turbine Flow (acfm) 2,488,64 Turbine Exhaust Temperature (°F) 1,10 Emission rate (lb/hr) 105. (TPY) 21. Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 24	00)] - Oxygen(%) np.(°F) + 460°F) 5) x 2116.8 x Volu x 5.9 x 1,000,00 5 15 9.25 12.12 2,363,849 1,152	ume flow (acfm) x 0 (adj. for ppm)} 15 10.16 11.99 2,279,045 1,172 91.1
46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT term Basis, ppmvd @15% O ₂	np.(°F) + 460°F) 5 15 4 8.59 9 12.2 1 2,438,274 9 1,139 1 101.2	x 5.9 x 1,000,00 15 9.25 12.12 2,363,849 1,152	0 (adj. for ppm)} 15 10.16 11.99 2,279,045 1,172 91.1
Moisture (%) 7.7 Oxygen (%) 12.3 Turbine Flow (acfm) 2,488,64 Turbine Exhaust Temperature (°F) 1,10 Emission rate (lb/hr) 105. (TPY) 21. Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 21.	4 8.59 9 12.2 1 2,438,274 9 1,139 1 101.2	9.25 12.12 2,363,849 1,152	10.16 11.99 2,279,045 1,172 91.1
Oxygen (%) 12.3 Turbine Flow (acfm) 2,488,64 Turbine Exhaust Temperature (°F) 1,10 Emission rate (lb/hr) 105. (TPY) 21. Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 21	9 12.2 1 2,438,274 9 1,139 1 101.2	12.12 2,363,849 1,152	11.99 2,279,045 1,172 91.1
Oxygen (%) 12.3 Turbine Flow (acfm) 2,488,64 Turbine Exhaust Temperature (°F) 1,10 Emission rate (lb/hr) 105. (TPY) 21. Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 21	1 2,438,274 9 1,139 1 101.2	2,363,849 1,152	11.99 2,279,045 1,172 91.1 18.2
Turbine Exhaust Temperature (°F) 1,10 Emission rate (lb/hr) 105. (TPY) 21. Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 21	9 1,139 1 101.2	1,152	1,172 91.1
Emission rate (lb/hr) 105. (TPY) 21. Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 21.	1 101.2	•	91.1
(TPY) 21. Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 21		96.5	
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 21			18.2
	0 20.2	19.3	10.2
	9 9		9
Moisture (%) 7.7			10.16
Turbine Flow (acfm) 2,488,64			2,279,045
Turbine Exhaust Temperature (°F) 1,10	•	•	1,172
Emission rate (lb/hr) 30. (TPY) 6.			26.0 5.2
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/fi 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT te			j. for ppm)]
Basis, ppmvw 1.			1.4
Basis, ppmvd 1.5			1.56
Moisture (%) 7.7			10.16
Turbine Flow (acfm) 2,488,64			2,279,045
Turbine Exhaust Temperature (°F) 1,10			1,172
Emission rate (lb/hr) 2.9 (TPY) 0.5			2.57 0.51
Lead (lb/hr)= NA			
Emission Rate Basis N.	A NA	. NA	NA
Emission rate (lb/hr)			NA
(TPY) N	• • • •	NA NA	NA

Note: ppmvd= parts per million, volume dry; O₂= oxygen.

Source: GE, 2000; Golder, 2003.

Load Condition		PEAK
Ambient Temp.	Deg F.	35.
Output	kW	190,300.
Heat Rate (LHV)	Btu/kWh	9,080.
Heat Cons. (LHV) X 10 ⁶	Btu/h	1,727.9
Auxiliary Power	kW	560
Output Net	kW	189,740.
Heat Rate (LHV) Net	Btu/kWh	9,110.
Exhaust Flow X 10 ³	lb/h	3713.
Exhaust Temp.	Deg F.	1109.
Exhaust Heat (LHV) X 10 ⁶	Btu/h	1015.9

EMISSIONS

NOx	ppmvd @ 15% O2	15.
NOx AS NO2	lb/h	105.
CO	ppmvd	9.
CO	lb/h	30.
UHC	ppmvw	7.
UHC	lb/h	15.
VOC	ppmvw	1.4
VOC	1b/h	3.
Particulates	lb/h	9.0

EXHAUST ANALYSIS % VOL.

Argon	0.89
Nitrogen	75.00
Oxygen	12.39
Carbon Dioxide	3.98
Water	7.74

SITE CONDITIONS

Elevation	ft.	45.0
Site Pressure	psia	14.68
Inlet Loss	in Water	3.0
Exhaust Loss	in Water	5.5
Relative Humidity	%	20
Fuel Type		Cust Gas
Fuel LHV	Btu/lb	20835 @ 290 °F
Application		7FH2 Hydrogen-Cooled Generator
Combustion System		9/42 DLN Combustor

Load Condition		PEAK
Ambient Temp.	Deg F.	59.
Output	kW	179,500.
Heat Rate (LHV)	Btu/kWh	9,225.
Heat Cons. (LHV) X 106	Btu/h	1,655.9
Auxiliary Power	kW	560
Output Net	kW	178,940.
Heat Rate (LHV) Net	Btu/kWh	9,250.
Exhaust Flow X 103	lb/h	3541.
Exhaust Temp.	Deg F.	1139.
Exhaust Heat (LHV) X 106	Btu/h	983.3

EMISSIONS

NOx	ppmvd @ 15% O2	15.
NOx AS NO2	lb/h	101.
CO	ppmvd	9.
CO	lb/h	29.
UHC	ppmvw	7.
UHC	lb/h	14.
VOC	ppmvw	1.4
VOC	lb/h	2.8
Particulates	lb/h	9.0

EXHAUST ANALYSIS % VOL.

Argon	0.89
Nitrogen	74.34
Oxygen	12.20
Carbon Dioxide	3.98
Water	8.59

SITE CONDITIONS

Elevation	ft.	45.0
Site Pressure	psia	14.68
Inlet Loss	in Water	3.0
Exhaust Loss	in Water	5.5
Relative Humidity	%	60
Fuel Type		Cust Gas
Fuel LHV	Btu/lb	20835 @ 290 °F
Application		7FH2 Hydrogen-Cooled Generator
Combustion System		9/42 DLN Combustor

Load Condition		PEAK
Ambient Temp.	Deg F.	75.
Output	kW	169,500.
Heat Rate (LHV)	Btu/kWh	9,370.
Heat Cons. (LHV) X 106	Btu/h	1,588.2
Auxiliary Power	kW	560
Output Net	kW	168,940.
Heat Rate (LHV) Net	Btu/kWh	9,400.
Exhaust Flow X 103	lb/h	3413.
Exhaust Temp.	Deg F.	1152.
Exhaust Heat (LHV) X 106	Btu/h	952.2

EMISSIONS

NOx	ppmvd @ 15% O2	15.
NOx AS NO2	lb/h	97.
CO	ppmvd	9.
CO	lb/h	28.
UHC	ppmvw	7.
UHC	lb/h	14.
VOC	ppmvw	1.4
VOC	lb/h	2.8
Particulates	lb/h	9.0

EXHAUST ANALYSIS % VOL.

Argon	0.89
Nitrogen	73.80
Oxygen	12.12
Carbon Dioxide	3.95
Water	9.25

SITE CONDITIONS

Elevation	ft.	45.0
Site Pressure	psia	14.68
Inlet Loss	in Water	3.0
Exhaust Loss	in Water	5.5
Relative Humidity	%	60
Fuel Type		Cust Gas
Fuel LHV	Btu/lb	20835 @ 290 °F
Application		7FH2 Hydrogen-Cooled Generator
Combustion System		9/42 DLN Combustor

Load Condition		PEAK
Ambient Temp.	Deg F.	95.
Output	kW	156,100.
Heat Rate (LHV)	Btu/kWh	9,595.
Heat Cons. (LHV) X 10 ⁶	Btu/h	1,497.8
Auxiliary Power	kW	560
Output Net	kW	155,540.
Heat Rate (LHV) Net	Btu/kWh	9,630.
Exhaust Flow X 10 ³	lb/h	3238.
Exhaust Temp.	Deg F.	1172.
Exhaust Heat (LHV) X 10 ⁶	Btu/h	910.7

EMISSIONS

NOx	ppmvd @ 15% O2	15.
NOx AS NO2	lb/h	91.
CO	ppmvd	9.
CO	lb/h	26.
UHC	ppmvw	7.
UHC	lb/h	13.
VOC	ppmvw	1.4
VOC	lb/h	2.6
Particulates	lb/h	9.0

EXHAUST ANALYSIS % VOL.

Argon	0.88
Nitrogen	73.06
Oxygen	11.99
Carbon Dioxide	3.91
Water	10.16

SITE CONDITIONS

Elevation	ft.	45.0
Site Pressure	psia .	14.68
Inlet Loss	in Water	3.0
Exhaust Loss	in Water	5.5
Relative Humidity	%	50
Fuel Type		Cust Gas
Fuel LHV	Btu/lb	20835 @ 290 °F
Application		7FH2 Hydrogen-Cooled Generator
Combustion System		9/42 DLN Combustor

FPL PEAK FIRING - ESTIMATED PERFORMANCE WITH FOGGER ON PG7241(FA)

Load Condition		PEAK	PEAK	PEAK
Ambient Temp.	Deg F.	59.	75.	95.
Ambient Relative Humid.	%	60.	60.	50.
Fogger Status		On	On	On
Fogger Effectiveness	%	95	95	95
Fuel Type		Cust Gas	Cust Gas	Cust Gas
Fuel LHV	Btu/lb	20,835	20,835	20,835
Fuel Temperature	Deg F	290	290	290
Output	kW	183,000.	175,200.	166,100.
Heat Rate (LHV)	Btu/kWh	9,185.	9,300.	9,450.
Heat Cons. (LHV) X 10 ⁶	Btu/h	1,680.9	1,629.4	1,569.6
Auxiliary Power	kW	560	560	560
Output Net	kW	182,440.	174,640.	165,540.
Heat Rate (LHV) Net	Btu/kWh	9,210.	9,330.	9,480.
Exhaust Flow X 10 ³	lb/h	3588.	3478.	3356.
Exhaust Temp.	Deg F.	1130.	1145.	1158.
Exhaust Heat (LHV) X 10 ⁶	Btu/h	995.4	972.4	945.9
EMISSIONS				
NOx	ppmvd @ 15% O2	15.	15.	15.
NOx AS NO2	lb/h	103.	99.	96.
CO	ppmvd	9.	9.	9.
CO	lb/h	29.	28.	27.
UHC	ppmvw	7.	7.	7.
UHC	lb/h	14.	14.	13.
VOC	ppmvw	1.4	1.4	1.4
VOC	lb/h	2.8	2.8	2.6
Particulates	lb/h	9.0	9.0	9.0
EXHAUST ANALYSIS	% VOL.			
A ====		0.80	0.07	0.97
Argon		0.89	0.87 73.54	0.87
Nitrogen		74.14		72.64
Oxygen		12.15	12.01	11.81
Carbon Dioxide		3.98	3.97	3.95
Water		8.84	9.61	10.73
SITE CONDITIONS				
Elevation	ft.	45.0		
Site Pressure	psia	14.68		
Inlet Loss	in Water	3.0		
Exhaust Loss	in Water	5.5		
Application			drogen-Coo	led Generator
Combustion System			Combusto	
John Djotem		,, ,, DDI	Comousio	-

FPL GAS FUEL LOAD AT 59°F AND 60% REL.HUMIDITY – ESTIMATED PERFORMANCE PG7241(FA)

	BASE
Deg F.	59.
	Cust Gas
Btu/lb	20,835
Deg F	290
kW	173,000.
Btu/kWh	9,250.
Btu/h	1,600.3
kW	560
kW	172,440.
Btu/kWh	9,280.
lb/h	3539.
Deg F.	1116.
Btu/h	951.8
	Btu/lb Deg F kW Btu/kWh Btu/h kW kW Btu/kWh Dtu/kWh

EMISSIONS

NOx	ppmvd @ 15% O2	9.
NOx AS NO2	lb/h	59.
CO	ppmvd	9.
CO	lb/h	29.
UHC	ppmvw	7.
UHC	lb/h	14.
VOC	ppmvw	1.4
VOC	lb/h	2.8
Particulates	lb/h	9.0

EXHAUST ANALYSIS % VOL.

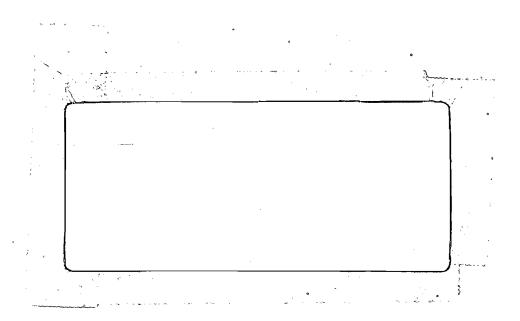
Argon	0.88
Nitrogen	74.42
Oxygen	12.44
Carbon Dioxide	3.87
Water	8.39

SITE CONDITIONS

Elevation	ft.	45.0
Site Pressure	psia	14.68
Inlet Loss	in Water	3.0
Exhaust Loss	in Water	5.5
Relative Humidity	%	60
Application		7FH2

Application 7FH2 Hydrogen-Cooled Generator

Combustion System 9/42 DLN Combustor







PEAK FIRING MODE PERMIT APPLICATION FLORIDA POWER & LIGHT COMPANY FORT MYERS POWER PLANT - UNIT 2 FORT MYERS, FLORIDA

Prepared For: Florida Power & Light Company 700 Universe Boulevard Juno Beach, Florida 33408

Prepared By: Golder Associates Inc. 6241 NW 23rd Street, Suite 500 Gainesville, Florida 32653-1500

May 2003

0337558

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Department of Environmental Protection Peceline Management May, Division of Air Resources Management MAY 15 2003 APPLICATION FOR AIR PERMIT - TITLE V SOURCE OF AIR REGULATION See Instructions for Form No. 62-210.900(1)

Ident	<u>ification</u>	of F	acility

1.	Facility Owner/Company Name:				
	Florida Power and Light Company	,			
2.	Site Name:				
	Fort Myers Plant				
3.	Facility Identification Number:	07100	002		[] Unknown
4.	Facility Location:	40CE0 C4-	.4. D		
	Street Address or Other Locator:			oad 80	7im Coder 22002
<u> </u>	City: Fort Myers	County: L			Zip Code: 33902
5.	Relocatable Facility?		6.	_	mitted Facility?
	[] Yes [X] No			[X]Yes	[] No
<u>Ar</u>	oplication Contact				
1.	Name and Title of Application Co Kevin Washington, Senior Environ		ecia	list	
2.	Application Contact Mailing Add Organization/Firm: FPL Environn		ices	Dept.	
	Street Address: 700 Universe	Blvd.			
	City: Juno Beach	Sta	ate:	FL	Zip Code: 33408
3.	Application Contact Telephone N	lumbers:			
	Telephone: (561)691-2877			Fax: (561)	691 - 7049
<u>A</u> r	Application Processing Information (DEP Use)				
1.	Date of Receipt of Application:		5-1	15-03	
2.	Permit Number:		07	10002-014	-AC
3.	PSD Number (if applicable):				
4.	Siting Number (if applicable):				

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one) Initial Title V air operation permit for an existing facility which is classified as a Title V source. Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source. Current construction permit number: Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application. Current construction permit number: Operation permit number to be revised: Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.) Operation permit number to be revised/corrected: Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal. Operation permit number to be revised: Reason for revision: **Air Construction Permit Application** This Application for Air Permit is submitted to obtain: (Check one) [X] Air construction permit to construct or modify one or more emissions units. Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units. [] Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official: William Reichel, Plant General Manager 2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: FPL Fort Myers Plant Street Address: P.O. Box 430 City: Fort Myers State: FL Zip Code: 33902 3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (239) 693 - 4200 Fax: (239) 693 - 4333 4. Owner/Authorized Representative or Responsible Official Statement: I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit. S/9/D3 Signature * Attach letter of authorization if not currently on file.						
Organization/Firm: FPL Fort Myers Plant Street Address: P.O. Box 430 City: Fort Myers State: FL Zip Code: 33902 3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (239) 693 - 4200 Fax: (239) 693 - 4333 4. Owner/Authorized Representative or Responsible Official Statement: I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit. S/9/03 Signature	1.					
City: Fort Myers State: FL Zip Code: 33902 3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (239) 693 - 4200 Fax: (239) 693 - 4333 4. Owner/Authorized Representative or Responsible Official Statement: I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit. Signature Date	2.	. Owner/Authorized Representative or Responsible Official Mailing Address:				
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (239) 693 - 4200 Fax: (239) 693 - 4333 4. Owner/Authorized Representative or Responsible Official Statement: I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit. Signature Date		Street Address: P.O. Box 430				
Telephone: (239) 693 - 4200 Fax: (239) 693 - 4333 4. Owner/Authorized Representative or Responsible Official Statement: I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit. S/9/03 Signature Date		City: Fort Myers	State: FL	Zip Code: 3390 2		
4. Owner/Authorized Representative or Responsible Official Statement: I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit. S/9/D3 Signature Date	3.	Owner/Authorized Representative or Re	sponsible Official T	elephone Numbers:		
I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit. S/9/03 Date D		Telephone: (239) 693 - 4200	Fax: (239)	693 - 4333		
the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit. S/9/03 Date Signature S/9/03 Date Signature S/9/03 Date Signature S/9/03 Date Signature S/9/03 Date S/9/04 Date S/9/0	4.	Owner/Authorized Representative or Re	esponsible Official S	tatement:		
* Attach letter of authorization if not currently on file.		the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit. S/9/03				
	* /	Attach letter of authorization if not curren	tly on file.	 		

Professional Engineer Certification

1.	Professional Engineer Name: Kennard F	. Kosky	,		
	Registration Number: 14996				
2.	Professional Engineer Mailing Address:				
	Organization/Firm: Golder Associates In	1C.*			
	Street Address: 6241 NW 23rd Street, Su	ite 500			
	City: Gainesville	State:	FL	Zip Code: 32653	
3.	Professional Engineer Telephone Number	ers:			
	Telephone: (352)336-5600		Fax:	(352) 336 - 6603	

4/30/2003

^{*}Certification of Authorization #00001670

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein*, that:

- (1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and
- (2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [], if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [], if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Themal 7.19 My	5/14/03	
Signature	Date	
(seal)		

^{*} Attach any exception to certification statement.

Scope of Application

Emissions		Permit	Processing
Unit ID	Description of Emissions Unit	Type	Fee
018	Combustion Turbine Generator 2A with Unfired Heat Recovery Steam Generator	AC1B	NA
019	Combustion Turbine Generator 2B with Unfired Heat Recovery Steam Generator	AC1B	NA
020	Combustion Turbine Generator 2C with Unfired Heat Recovery Steam Generator	AC1B	NA
021	Combustion Turbine Generator 2D with Unfired Heat Recovery Steam Generator	AC1B	NA
022	Combustion Turbine Generator 2E with Unfired Heat Recovery Steam Generator	AC1B	NA
023	Combustion Turbine Generator 2F with Unfired Heat Recovery Steam Generator	AC1B	NA
	·		

Application Processing Fee

Check one: [] Attached - Amount: \$	[x]	Not Applicable
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Construction/Modification Information

Cu	onstruction/wodification information
1.	Description of Proposed Project or Alterations:
	This application is requesting a construction permit to operate the combustion turbines associated with Units 2A through 2F in peak firing mode for up to 400 hours per year. See Part II.
2.	Projected or Actual Date of Commencement of Construction: June 1, 2003
3.	Projected Date of Completion of Construction: Dec 31, 2003
A	oplication Comment
	See Part II.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1.	Facility UTM Coor	dinates:			
	Zone: 17 East (km): 4		: 422.3	North (km): 2952.9	
2.	Facility Latitude/Lo Latitude (DD/MM/	<u> </u>	Longitude	(DD/MM/SS): 81/46/55	
3.	Governmental Facility Code: O	4. Facility Status Code: A	5. Facility M Group SIC 49	• • • • • • • • • • • • • • • • • • • •	

7. Facility Comment (limit to 500 characters):

The existing steam generating units (Units 1&2) that burned residual fuel oil (including provisions for used oil) were replaced with 6 advanced combustion turbines burning natural gas. The current configuration is a combined cycle unit that consists of 6 combustion turbines, and 6 heat recovery steam generators (HRSGs) which provide steam for the existing steam turbines from Units 1&2. The 12 simple cycle combustion turbines (GT Units 1-12) which burn #2 diesel oil or on-specification used oil from Florida Power & Light Company operations remain as peaking units.

Facility Contact

1. Name and Title of Facility Contact:

Mr. Bernie Tibble, Environmental Specialist

2. Facility Contact Mailing Address:

Organization/Firm: FPL Fort Myers Plant

Street Address:

PO Box 430

City: Fort Myers

State: FL

Zip Code: 33902

3. Facility Contact Telephone Numbers:

Telephone: (239) 693 - 4390

Fax: (239) 693 - 4333

Facility Regulatory Classifications

Check all th	iat apply:
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1. [] Small Business Stationary Source? [] Unknown				
2. [X] Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?				
3. [] Synthetic Minor Source of Pollutants Other than HAPs?				
4. [] Major Source of Hazardous Air Pollutants (HAPs)?				
5. [] Synthetic Minor Source of HAPs?				
6. [X] One or More Emissions Units Subject to NSPS?				
7. [] One or More Emission Units Subject to NESHAP?				
8. [] Title V Source by EPA Designation?				
9. Facility Regulatory Classifications Comment (limit to 200 characters):				
The combustion turbines are subject to NSPS Subpart GG.				
B				
List of Applicable Regulations				
Facility applicable regulations are listed in the existing Title V permit. No additional facility				
applicable requirements will result from approval of this construction application.				

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B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant	2. Pollutant	3. Requested Emissions Cap		4. Basis for	5. Pollutant
Emitted	Classif.	lb/hour	tons/year	Emissions Cap	Comment
-					
	_				
		·			

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1.	Area Map Showing Facility Location: [] Attached, Document ID:	[X] Not Applicable [] Waiver Requested
2.	Facility Plot Plan: [] Attached, Document ID:	[X] Not Applicable [] Waiver Requested
3.	Process Flow Diagram(s): [] Attached, Document ID:	[X] Not Applicable [] Waiver Requested
	Precautions to Prevent Emissions of Unc. [] Attached, Document ID:	
5.	Fugitive Emissions Identification: [] Attached, Document ID:	[X] Not Applicable [] Waiver Requested
6.	Supplemental Information for Construct [X] Attached, Document ID: Part II	
7.	Supplemental Requirements Comment:	

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8.	List of Proposed Insignificant Activities:
	[] Attached, Document ID: [X] Not Applicable
9.	List of Equipment/Activities Regulated under Title VI:
	[] Attached, Document ID:
	[] Equipment/Activities On site but Not Required to be Individually Listed
	[X] Not Applicable
10.	Alternative Methods of Operation:
	[] Attached, Document ID: [X] Not Applicable
11.	Alternative Modes of Operation (Emissions Trading):
	[] Attached, Document ID: [X] Not Applicable
12.	Identification of Additional Applicable Requirements:
	[] Attached, Document ID: [X] Not Applicable
13.	Risk Management Plan Verification:
1	[] Plan previously submitted to Chemical Emergency Preparedness and Prevention
	Office (CEPPO). Verification of submittal attached (Document ID:) or
	previously submitted to DEP (Date and DEP Office:)
	[] Plan to be submitted to CEPPO (Date required:)
	[X] Not Applicable
14.	Compliance Report and Plan:
	[] Attached, Document ID: [X] Not Applicable
15.	Compliance Certification (Hard-copy Required):
	[] Attached, Document ID: [X] Not Applicable

Emissions Unit Information Section	1	of	1	Combustion Turbines 2A thru 2F
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III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION (All Emissions Units)

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in Th	is Section: (Check one)					
[] This Emissions Unit Information Section process or production unit, or activity, which has at least one definable emissions.	which produces one or more	•				
[X] This Emissions Unit Information Section process or production units and activitity (stack or vent) but may also produce full	es which has at least one defi					
[] This Emissions Unit Information Section process or production units and activities						
2. Regulated or Unregulated Emissions Uni	t? (Check one)					
[X] The emissions unit addressed in this Er emissions unit.	nissions Unit Information Sec	ction is a regulated				
[] The emissions unit addressed in this Er emissions unit.	missions Unit Information Sec	ction is an unregulated				
3. Description of Emissions Unit Addressed Combustion Turbines 2A through 2F	l in This Section (limit to 60 o	characters):				
4. Emissions Unit Identification Number:						
[] No ID						
ID: 018-023	-1	-				
5. Emissions Unit 6. Initial Startup	7. Emissions Unit Major	8. Acid Rain Unit?				
A OCT 2000	Status Code: Date: Group SIC Code: [X] OCT 2000 49					
9. Emissions Unit Comment: (Limit to 500	9. Emissions Unit Comment: (Limit to 500 Characters)					
The emission units are six General Electric (GE) Frame 7FA Advanced CTs. Unit 2 will use natural gas in peak firing mode. Nameplate ratings, heat input, emissions, etc., are the same for each CT.						

Emissions Unit Control Equipment			
Control Equipment/Method Description (Li	imit	to 200 characters	per device or method)
Dry Low NO _x Combustors			
•			
Control Device on Mathed Code(s)			
. Control Device or Method Code(s): 025			
missions Unit Details			
. Package Unit:			
Manufacturer: General Electric		Model Number:	7FA
	182	MW	
. Incinerator Information:			O.C.
Dwell Temperature: Dwell Time:			°F seconds
Incinerator Afterburner Temperature:			°F

Emissions Unit Information Section	1	of	1	Combustion Turbines 2A thru 2F
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B. EMISSIONS UNIT CAPACITY INFORMATION (Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1.	Maximum Heat Input Rate:		1,918	mmBtu/hr
2.	Maximum Incineration Rate:	lb/hr		tons/day
3.	Maximum Process or Through	put Rate:		
4.	Maximum Production Rate:			
5.	Requested Maximum Operatin	g Schedule:		
		hours/day		days/week
		weeks/year	400	hours/year
6.	Operating Capacity/Schedule C	Comment (limit to 200 ch	naracters):	
	Maximum heat input for peak fi 35 degrees Fahrenheit (°F), 20% Value (HHV). Generator namep	& relative humidity, and 1	4.7 psia. Heat	input as High Heating

Emissions Unit Information Section of combustion furbines 2A tiliu 21					
C. EMISSIONS UNIT REGULATIONS (Regulated Emissions Units Only)					
List of Applicable Regulations					
Applicable regulations do not change as a result of this construction permit application.					
·					

DEP Form No. 62-210.900(1) - Form Effective: 2/11/99

Emissions Unit Information Section	1	of	1	Combustion Turbines 2A thru 2F
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D. EMISSION POINT (STACK/VENT) INFORMATION (Regulated Emissions Units Only)

Emission Point Description and Type

Identification of Point on Pi Flow Diagram?	ot Plan or	2. Emission Po	int Type Code:	
3. Descriptions of Emission Policy 100 characters per point):	oints Comprising	this Emissions (Jnit for VE Tracking (limit to
Unit can exhaust through C	₣ and HRSG stac	ks.		
4. ID Numbers or Description				n:
5. Discharge Type Code: v	6. Stack Heigh	nt: 125 feet	7. Exit Diameter: 19	feet
8. Exit Temperature: 220 °F	9. Actual Volu Rate:	imetric Flow	10. Water Vapor: 8.6	%
11. Maximum Dry Standard Flo 738,680		12. Nonstack Er	nission Point Height: f	eet
13. Emission Point UTM Coord	linates:			
Zone: 17	ast (km): 468.3	Nort	h (km): 3190.3	
14. Emission Point Comment (imit to 200 chara	acters):		
Stack conditions for comb Stack conditions vary base foggers. See Part II.				

Emissions Unit Information Section	1	of	1	Combustion Turbines 2A thru 2
Cillibrions Chit Intol Hintion Section		O.	-	

E. SEGMENT (PROCESS/FUEL) INFORMATION (All Emissions Units)

Se	Segment Description and Rate: Segment 1 of 1						
1.	1. Segment Description (Process/Fuel Type) (limit to 500 characters):						
	Natural Gas						
	•						
2.	Source Classification Cod 2-01-002-01	e (SCC):	3. SCC Units		eet		
4.	Maximum Hourly Rate: 1.92	5. Maximum <i>i</i> 718		_	Estimated Annual Activity Factor:		
7.	Maximum % Sulfur:	8. Maximum 9	% Ash:	9.	Million Btu per SCC Unit: 1,024		
10	. Segment Comment (limit	to 200 characters):	1			
	Maximum Hourly Rate = 1, Annual based on 59°F turb			on Bti	u/SCC as HHV.		
Se	gment Description and Ra	nte: Segment	of				
1.	Segment Description (Pro-	cess/Fuel Type)	(limit to 500 ch	aract	ers):		
2.	Source Classification Cod	e (SCC):	3. SCC Uni	ts:			
4.	Maximum Hourly Rate:	5. Maximum Annual Rate: 6. Estimated Annual Activity Factor:					
7.	Maximum % Sulfur:	8. Maximum % Ash: 9. Million Btu per SCC Unit					
10	10. Segment Comment (limit to 200 characters):						

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Emissions Unit Information Section	1	of	1	Combustion Turbines 2A thru 2	2 F
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F. EMISSIONS UNIT POLLUTANTS (All Emissions Units)

1. Pollutant Emitted	Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
РМ			WP
SO ₂			WP
NO _X	025		EL
со			EL
voc			EL
			-
	-		

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Emissions Unit Information Section	1	of _	1	Combustion Turbines 2A thru 2f
Pollutant Detail Information Page	1	of _	5	Particulate Matter - Total

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION (Regulated Emissions Units Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions		
1. Pollutant Emitted:	2. Total Percent Efficie	ency of Control:
РМ		
3. Potential Emissions:		4. Synthetically
9 lb/hour	1.8 tons/year	Limited? [X]
5. Range of Estimated Fugitive Emissions:		
[]1 []2 []3	to to	ns/year
6. Emission Factor: 9 lb/hr		7. Emissions
Reference: GE, 2000		Method Code: 2
8. Calculation of Emissions (limit to 600 chara	acters):	
See Part II.		
See Fait II.		
9. Pollutant Potential/Fugitive Emissions Com	ment (limit to 200 charac	ters):
Between the transfer of the August All AT		
Potential emissions for one (1) CT and peak	tiring mode.	
Allowable Emissions Allowable Emissions	1 of 1	
1. Basis for Allowable Emissions Code:	2. Future Effective Da	ite of Allowable
OTHER	Emissions:	
3. Requested Allowable Emissions and Units:	4. Equivalent Allowal	ole Emissions:
10% Opacity	9 lb/hour	1.8 tons/year
5. Method of Compliance (limit to 60 characte	ers):	
EPA Method 9		
6. Allowable Emissions Comment (Desc. of Comment		o 200 characters):
,		
Peak firing mode with natural gas. Equivale	nt allowable emissions for	one (1) CT.
·		

Emissions Unit Information Section	1	of	1	Combustion Turbines 2A thru 2F
Pollutant Detail Information Page	2	of	5	Sulfur Dioxide

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION (Regulated Emissions Units -

<u>Po</u>	tential/Fugitive Emissions						
1.	Pollutant Emitted:	2. To	otal	Percent Efficie	ency	of Control:	:
	SO ₂						
3.	Potential Emissions:				4.	Synthetica	-
	5.1 lb/hour	1.02	2	tons/year		Limited?	[X]
5.	Range of Estimated Fugitive Emissions:			to to	ns/ye	ear	
6.	Emission Factor: 1 grain S/100 cf Gas				, <u> </u>	Emissions	
	Reference: GE, 2000; Golder, 2003					Method Co 2	ode:
8.	Calculation of Emissions (limit to 600 chara	cters):					
	See Part II.						
	333						
9.	Pollutant Potential/Fugitive Emissions Com	ment (limi	t to 200 charac	ters)	•	
'	Township Township against Emissions Com			o de distribuição	,	•	
	Potential emissions for one (1) CT and peak	firing n	nod	e.			
All	lowable Emissions Allowable Emissions	_	of	<u>1</u>			
1.	Basis for Allowable Emissions Code: OTHER	1		re Effective Da ssions:	ate of	f Allowable	e
3.	Requested Allowable Emissions and Units:	4. E	∃qui	ivalent Allowal	ble E	missions:	
				5.1 lb/hour		1.02 tons/y	ear
5.	Method of Compliance (limit to 60 characte	rs):					
	Fuel Sampling; Vendor Sampling Pipeline Qu	uality N	latu	ral Gas			
6.	Allowable Emissions Comment (Desc. of O	peratin	ıg N	lethod) (limit t	o 200	O characters	s):
	Equivalent allowable emissions for one (1) C sulfur content. Peak firing mode with natura		wal	ble based on ty	pical	maximum	fuel

Emissions Unit Information Section	1	_ of _	1	Combustion Turbines 2A thru 2F
Pollutant Detail Information Page	3	_ of _	5	Nitrogen Oxides

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION (Regulated Emissions Units -

Pot	tential/Fugitive Emissions			
1.	Pollutant Emitted:	2. T	Total Percent Effici	ency of Control:
	NO _x			·
3.	Potential Emissions: 101.2 lb/hour	20.2	24 tons/year	4. Synthetically Limited? [X]
5.	Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3		to to	ns/year
6.	Emission Factor: 15 ppmvd @ 15% (O ₂		7. Emissions
	Reference: GE, 2000			Method Code:
8.	Calculation of Emissions (limit to 600 charac	cters)	:	
	See Part II			
	•			
9.	Pollutant Potential/Fugitive Emissions Com	ment ((limit to 200 charac	eters):
	-			·
	Potential emissions for one (1) CT and peak f	iring i	mode.	
All	owable Emissions Allowable Emissions	1	of1	
1.	Basis for Allowable Emissions Code: OTHER	1	Future Effective D Emissions:	ate of Allowable
3.	Requested Allowable Emissions and Units:	4.	Equivalent Allowa	ble Emissions:
	15 ppmvd @ 15% O ₂		101.2 lb/hour	20.24 tons/year
5.	Method of Compliance (limit to 60 character	rs):		
	CEM - Part 75			
6.	Allowable Emissions Comment (Desc. of Op	peratii	ng Method) (limit t	to 200 characters):
	Allowable emissions are a 3-hour block avera Equivalent allowable emissions for one (1) C			

Emissions Unit Information Section	1	of _	1	Combustion Turbines 2A thru 2F
Pollutant Detail Information Page	4	_ of _	5	Carbon Monoxide

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION (Regulated Emissions Units Emissions Limited and Present Province Polymer Polymer Control

<u>Po</u>	tential/Fugitive Emissions	
1.	Pollutant Emitted:	2. Total Percent Efficiency of Control:
	со	
3.	Potential Emissions:	4. Synthetically
	28.9 lb/hour	5.78 tons/year Limited? [X]
5.	Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3	totons/year
6.	Emission Factor: 9 ppmvd	7. Emissions
	Reference: GE, 2000	Method Code:
8.	Calculation of Emissions (limit to 600 chara	
	See Part II.	
		,
9.	Pollutant Potential/Fugitive Emissions Com	ment (limit to 200 characters):
	-	
	Potential emissions for one (1) CT and peak f	firing mode.
<u>Al</u>	lowable Emissions Allowable Emissions	1 of 1
1.	Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3.	Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions:
	9 ppmvd	28.9 lb/hour 5.78 tons/year
5.	Method of Compliance (limit to 60 character	rs):
	EPA Method 10; Annual Test	
6.	Allowable Emissions Comment (Desc. of Op	perating Method) (limit to 200 characters):
	Peak firing mode with natural gas. Equivalen	nt allowable emissions for one (1) CT.

Emissions Unit Information Section	1	of	1	Combustion Turbines 2A thru 2F
Pollutant Detail Information Page	5	of	. 5	Volatile Organic Compounds

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION (Regulated Emissions Units -

Potential/Fugitive Emissions		
1. Pollutant Emitted:	2. Total Percent Efficie	ncy of Control:
voc		
3. Potential Emissions:		4. Synthetically
2.81 lb/hour	0.56 tons/year	Limited? [X]
5. Range of Estimated Fugitive Emissions:	to tor	ns/year
6. Emission Factor: 1.4 ppmvw		7. Emissions
Reference: GE, 2000		Method Code:
8. Calculation of Emissions (limit to 600 chara	icters):	
Con Boot II		
See Part II.		
9. Pollutant Potential/Fugitive Emissions Com	mant (limit to 200 shareat	
9. Foliutant Potential/Fugitive Emissions Com	ment (mint to 200 charact	.018).
Potential emissions for on (1) CT and peak fi	ring mode.	
Allowable Emissions Allowable Emissions	1 of 1	
Basis for Allowable Emissions Code: OTHER	2. Future Effective Da Emissions:	te of Allowable
3. Requested Allowable Emissions and Units:	4. Equivalent Allowab	le Emissions:
1.4 ppmvw	2.81 lb/hour	0.56 tons/year
5. Method of Compliance (limit to 60 characte	rs):	
EPA Method 18 or 25A; Initial Compliance Te	est only	
6. Allowable Emissions Comment (Desc. of O	perating Method) (limit to	200 characters):
Equivalent allowable emissions for one (1) C	T. Peak firing mode with i	natural gas.
(1) 0	and the state of t	

En	missions Unit Information Section1	of 1 Combustion Turbines 2A thru 2F						
	H. VISIBLE EMISSIC (Only Regulated Emissions Uni							
<u>Vis</u>	isible Emissions Limitation: Visible Emission	ns Limitation 1 of 2						
1.	VE10	2. Basis for Allowable Opacity: [] Rule [x] Other						
3.	B. Requested Allowable Opacity: Normal Conditions: 10 % Exceptional Conditions: Maximum Period of Excess Opacity Allowed: min/hour							
4.	Method of Compliance:	·						
	Annual VE Test - EPA Method 9.	•						
5.	Visible Emissions Comment (limit to 200 cha	aracters):						
	Peak Firing Mode with Natural Gas							
<u>Co</u>	I. CONTINUOUS MONITOR INFORMATION (Only Regulated Emissions Units Subject to Continuous Monitoring) Continuous Monitoring System: Continuous Monitor 1 of 1							
1.	Parameter Code: EM	2. Pollutant(s): NO _x						
3.	CMS Requirement:	[X] Rule [] Other						
4.	Model Number: $NO_x = 42C$; $O_2 = 1400$ Serial Number: NO_x O_2 2A = 42CLS-76494-383 $01422B = 42CLS-76496-383$ $01422C = 42CLS-76495-383$ $01422D = 42CHL-66131-351$ $01422E = 42CHL-65868-350$ 0142	20C/1302 20C/1304 20C/1402 20C/1403 20C/1466 20C/1444						

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(Original NO_x replaced in 2002)

01 Sep 2000 (2A) through 01 Mar 2001 (2F)

CEMs meet requirements of 40 CFR Part 75.

7. Continuous Monitor Comment (limit to 200 characters):

5. Installation Date:

Performance Specification Test Date:

19 DEC 2002 (2A); 18 DEC 2002 (2B);

18 DEC 2002 (2C); 12 APF 2001 (2D); 03 APR 2001 (2E); 31 MAY 2001 (2F)

En	nissions Unit Information Sectio	on 1 of 1 Combustion Turbines 2A thru 2F						
	(Only Regulated Er	LE EMISSIONS INFORMATION missions Units Subject to a VE Limitation)						
Vi	sible Emissions Limitation: Visi	ible Emissions Limitation 2 of 2						
1.	Visible Emissions Subtype: VE99	2. Basis for Allowable Opacity: [X] Rule [Other]						
3.	. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour							
4.	Method of Compliance:							
	None							
5.	Visible Emissions Comment (lim	nit to 200 characters):						
		UOUS MONITOR INFORMATION						
~	` • •	sions Units Subject to Continuous Monitoring)						
<u>Co</u>	ontinuous Monitoring System: C	Continuous Monitor of						
1.	Parameter Code:	2. Pollutant(s):						
	CMS Requirement:	[] Rule []						
4.	Monitor Information: Manufacturer: Model Number: Serial Number:							
5.	Installation Date:	6. Performance Specification Test Date:						
7.	Continuous Monitor Comment (l	limit to 200 characters):						

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Emissions Unit Information Section	1	of 1	Combustion Turbines 2A thru 2F
	-	OI .	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION (Regulated Emissions Units Only)

Supplemental Requirements

	1.	Process Flow Diagram			
		[] Attached, Document ID: [X] Not Applicable [] Waiver Requested			
	2.	Fuel Analysis or Specification			
		[] Attached, Document ID: [] Not Applicable [] Waiver Requested			
	3.	Detailed Description of Control Equipment			
		[] Attached, Document ID: [X] Not Applicable [] Waiver Requested			
	4.	Description of Stack Sampling Facilities			
		[] Attached, Document ID: [X] Not Applicable [] Waiver Requested			
	5.	Compliance Test Report			
		[] Attached, Document ID:			
		[] Previously submitted, Date:			
		[X] Not Applicable			
	6.	Procedures for Startup and Shutdown			
		[] Attached, Document ID: [X] Not Applicable [] Waiver Requested			
	7.	Operation and Maintenance Plan			
		[] Attached, Document ID: [X] Not Applicable [] Waiver Requested			
	8.	Supplemental Information for Construction Permit Application			
		[X] Attached, Document ID: Part II [] Not Applicable			
9. Other Information Required by Rule or Statute					
		[] Attached, Document ID: [X] Not Applicable			
		[1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
10. Supplemental Requirements Comment:					

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Emissions Unit Information Section	1	of	1	Combustion Turbines 2A thru 2I

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation						
[] Attached, Document ID: [X] Not Applicable						
12. Alternative Modes of Operation (Emissions Trading)						
[] Attached, Document ID: [X] Not Applicable						
13. Identification of Additional Applicable Requirements						
[] Attached, Document ID: [X] Not Applicable						
14. Compliance Assurance Monitoring Plan						
[] Attached, Document ID: [X] Not Applicable						
15. Acid Rain Part Application (Hard-copy Required)						
[] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID:						
[] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID:						
[] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID:						
[] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID:						
[] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) Attached, Document ID:						
[] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) Attached, Document ID:						
[X] Not Applicable						

PART II

APPLICATION FOR AIR CONSTRUCTION PERMIT
FORT MYERS UNITS 2A THROUGH 2F
PEAK FIRING MODE

APPLICATION FOR AIR CONSTRUCTION PERMIT FORT MYERS UNITS 2A THROUGH 2F PEAK FIRING OPERATION

Introduction

The Florida Power & Light Company (FPL) Fort Myers Plant is located on approximately 460 acres 2.5 miles east of Tice, Lee County, Florida. In November 1998, an Air Construction Permit was issued for the installation of six nominal 170-megawatt (MW) combustion turbines (CTs) with an associated heat recovery steam generators (HRSGs) for repowering two existing steam electric generators (Florida Department of Environmental Protection (DEP) File No. 0710002-004-AC]. The CTs are designated as Units 2A through 2F. The combustion turbines are General Electric (GE) Frame 7FA (Model PG7241) that are authorized to fire natural gas. Dry low-nitrogen oxides (NO_x) combustion technology is used to control emissions of NO_x to 9 parts per million by volume dry (ppmvd) corrected to 15-percent oxygen when firing natural gas. The CTs are equipped with inlet evaporative cooling systems.

This application is submitted to request authorization to allow operation in Peak Firing Mode for up to 400 hours per year.

Peak Firing Mode

Peak Firing Mode operation is a computer-controlled increase in firing temperature with greater heat input and output. It is a standard operating feature of the GE Frame 7FA CT when firing natural gas. The increase in power and heat input is about 3.8 percent at ISO conditions. The heat rate of the unit decreases by about 25 British thermal units per kilowatt-hour (Btu/Kw-hr) or about 0.3 percent. This mode of operation has been authorized for more recent projects including Martin Simple Cycle Units 8A and 8B, Fort Myers Simple Cycle Units 3A and 3B, Martin Combined Cycle Unit 8, and Manatee Combined Cycle Unit 3. Operation of up to 400 hours per year operation has been authorized.

Appendix A contains performance and emissions data and calculations for Peak Firing Mode at turbine inlet temperatures of 35 degrees Fahrenheit (°F), 59°F, 75°F, and 95°F. Appendix A also contains the GE estimated performance and emissions for Peak Firing Mode. For comparison, GE estimated performance for base load operation at 59°F is also contained in Appendix A.

Table 1 presents the hourly and annual emissions for particulate matter/particulate matter less than 10 microns (PM/PM₁₀), sulfur dioxide (SO₂), NO_x, carbon monoxide (CO), and volatile organic compounds (VOCs) for Peak Firing mode and baseload operation. Emissions are presented for each CT and the six CTs associated with Units 2A through 2F. As previously noted, Peak Firing Mode is a computer-controlled operation that increases firing temperature from baseload operation. As a result, emission increases are an incremental increase from baseload, since baseload operation must occur when peak mode begins. Peak Firing Mode only provides an incremental increase in power to meet electric demands that could not otherwise be provided by baseload operation.

Regulatory Applicability

Peak Firing Mode is a change in the method of operation of CTs. A modification would occur if there is a net emissions increase pursuant to Rule 62-212.400(2)(e)1 Florida Administrative Code (F.A.C.): "A modification to a facility results in a net emissions increase when, for a pollutant regulated under the Act, the sum of all of the contemporaneous creditable increases and decreases in the actual emissions of the facility, including the increase in emissions of the modification itself and any increases and decreases in quantifiable fugitive emissions, is greater than zero." Pursuant to Rule 62-212.400(2)(e)2: "A significant net emissions increase of a pollutant regulated under the Act is a net emission increase equal to or greater than the applicable significant emission rate listed in Table 212.400-2, Regulated Air Pollutants - Significant Emission Rates."

The EPA guidance regarding PSD applicability clearly indicates that applicability is pollutant specific. In addition, if the emissions for a project are less than the significant emission rates, then PSD review is not applicable [U.S. Environmental Protection Agency (EPA) Draft New Source Review Workshop Manual, October 1990, Table A-5]. If the significant impact levels are exceeded for that pollutant, then contemporaneous emission increases and decreases are evaluated. Based on Rule 62-212.400(2)(e)3 F.A.C., contemporaneous emissions changes are: "An increase or decrease in the actual emissions or in the quantifiable fugitive emissions of a facility is contemporaneous with a particular modification if it occurs within the period beginning five years prior to the date on which the owner or operator of the facility submits a complete application for a permit to modify the facility and ending on the date on which the owner or operator of the modified facility projects the new or modified emissions unit(s) to begin operation. The date on which any increase in the actual emissions or in the quantifiable fugitive emissions of the facility occurs is the date on which the owner or operator of the facility begins, or projects to begin, operation of the emissions unit(s) resulting in the increase. The date on which any decrease in the actual emissions or in the quantifiable fugitive

emissions of the facility occurs is the date on which the owner or operator of the facility completes, or is committed to complete through a federally enforceable permit condition, a physical change in or change in the method of operation of the facility resulting in the decrease."

Table 1 shows that, with the exception of NO_x, the emissions from the project are below the significant emission rates. This conclusion is evident whether a comparison of project emissions and significant emission rates is made using the difference between peak firing and baseload or by using the total emissions for Peak Firing Mode with all six CTs.

The Fort Myers Plant has had creditable emission decreases over the last several years resulting from shutting down the existing residual oil fired steam generating units (i.e., steam generators for Units 1 and 2). The steam generators for Units 1 and 2 were retired in August 31 and September 1, 2001, respectively. The emission reductions from these retirements are contemporaneous with the proposed Peak Firing mode. Peak Firing is scheduled to be completed within 2003, which is well within the 5-year contemporaneous period for the creditable reductions from the Units 1 and 2 steam generators. Table 2 presents a netting analysis for NO_x. As shown, the large net emissions decreases in NO_x offset the small increases from peak firing.

Table 1. Emissions for Peak Firing and Base Load at a Turbine Inlet Temperature of 59°F FPL Fort Myers Plant, Units 2A through 2F

		Peak Firing at 59 °F		Base Load	Base Load at 59 °F		
Pollutant		per CT	6 CTs	per CT	6 CTs	Difference	SER ^b
PM/PM ₁₀	lb/hr	9	54	9	54		
	TPY ^a	1.8	10.8	1.8	10.8	0	15/25
SO ₂	lb/hr	5.1	30.6	4.9	29.4		
	TPY ^a	1.02	6.12	0.98	5.88	0.24	40
NO _x	lb/hr	101.2	607.2	58.7	352.2		
	TPY ^a	20.24	121.44	11.74	70.44	51	40
СО	lb/hr	28.9	173.4	28.8	172.8		
	TPY ^a	5.78	34.68	5.76	34.56	0.12	100
VOC	lb/hr	2.81	16.86	2.79	16.74		
	TPY ^a	0.562	3.372	0.558	3.348	0.024	40

^a TPY = tons/year; reflects a maximum of 400 hours per year operation.

Source: GE, 2000; Golder, 2003.

^b SER = significant emission rate from Table 212.400-2 F.A.C.

Table 2. Net NO_x Emission Changes for Fort Myers Plant

Pollutant	Actual Emissions	Repowering Project ^a	Gas Turbines 1 through 12 Foggers ^b	Units 3A and 3B ^c	Peak Operation	Net Emission Change	SER ^d	PSD Review Applicable?
NO _x	7,905.0	1,845.0	24.2	741.0	51.0	-5,243.8	40	No Net Emission Increase

^a FDEP File No. 0710002-004-AC; 1,500-MW Repowering Project.

^b FDEP File No. 0710002-005-AC; Inlet Fogger Installation for Emission Units 003 through 014.

^c FDEP File No. 0710002-009-AC; 1,500-MW Simple Cycle Project.

^d SER = Significant emission rates from Table 212.400-2 F.A.C.

APPENDIX A

Table A-1. Design Information and Stack Parameters for GE Frame 7FA, Dry Low NO_x Combustor, Natural Gas Peak Firing Mode

	Ambient Inlet Temperature				
Parameter	35 °F	59 °F	75 °F	95 °F	
Combustion Turbine Performance					
Net power output (MW)	190.3	179.5	169.5	156.1	
Net heat rate (Btu/kWh, LHV)	9,080	9,225	9,370	9,595	
(Btu/kWh, HHV)	10,079	10,240	10,401	10,651	
Heat input (MMBtu/hr, LHV)	1,728	1,656	1,588	1,498	
(MMBtu/hr, HHV)	1,918	1,838	1,763	1,663	
Fuel heating value (Btu/lb, LHV)	20,835	20,835	20,835	20,835	
(Btu/lb, HHV)	23,127	23,127	23,127	23,127	
(HHV/LHV)	1.110	1.110	1.110	1.110	
CT Exhaust Flow					
Mass Flow (lb/hr)- with no margin	3,713,000	3,558,000	3,413,000	3,238,000	
- provided	3,713,000	3,558,000	3,413,000	3,238,000	
Temperature (°F)	1,109	1,139	1,152	1,172	
Moisture (% Vol.)	7.74	8.59	9.25	10.16	
Oxygen (% Vol.)	12.39	12.20	12.12	11.99	
Molecular Weight	28.48	28.38	28.31	28.21	
Fuel Usage	•				
Fuel usage (lb/hr) = Heat Input (MMBtu/hr) x 1	,000,000 Btu/MMBtu	(Fuel Heat Cont	ent, Btu/lb (LHV))		
Heat input (MMBtu/hr, LHV)	1,728	1,656	1,588	1,498	
Heat content (Btu/lb, LHV)	20,835	20,835	20,835	20,835	
Fuel usage (lb/hr)- calculated	82,933	79,477	76,228	71,889	
HRSG Stack					
CT- Stack height (ft)	125	125	125	125	
Diameter (ft)	19	19	19	19	
Turbine Flow Conditions					
Turbine Flow (acfm) = [(Mass Flow (lb/hr) x 1,5	545 x (Temp. (°F)+ 46	60°F)] / [Molecula	ar weight x 2116.8	3] / 60 min/hr	
Mass flow (lb/hr)	3,713,000	3,558,000	3,413,000	3,238,000	
Temperature (°F)	1,109	1,139	1,152	1,172	
Molecular weight	28.48	28.38	28.31	28.21	
Volume flow (acfm)- calculated	2,488,641	2,438,274	2,363,849	2,279,045	
(ft3/s)- calculated	41,477	40,638	39,397	37,984	
Stack Flow Conditions - HRSG					
Velocity (ft/sec) = Volume flow (acfm) / [((diam	neter)² /4) x 3.14159].	/ 60 sec/min	·		
CT Temperature (°F)	220	220	220	220	
CT volume flow (acfm)	1,078,570	1,036,915	997,157	949,602	
Diameter (ft)	19	19	19	19	
Velocity (ft/sec)- calculated	63.4	61.0	58.6	55.8	

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft²; 14.7 lb/ft³

Turbine inlet relative humidity is 20% at 35 °F, 60% at 59 and 75 °F, and 50% at 95 °F.

Source: GE, 2000.

Table A-2. Maximum Emissions for Criteria Pollutants for GE Frame 7FA, Dry Low NOx Combustor, Natural Gas Peak Firing Mode

	Α	mbient Inlet Ten	perature	
Parameter	35 °F	59 °F	75 °F	95 °F
Hours of Operation	400	400	400	400
Particulate (lb/hr) = Emission rate (lb/hr) from	n manufacturer			
Basis (excludes H ₂ SO ₄), lb/hr	9	9	10	10
Emission rate (lb/hr)- provided	9.0	9.0	10.0	10.0
(TPY)	1.80	1.80	2.00	2.00
Sulfur Dioxide (lb/hr) = Natural gas (cf/hr) x s	ulfur content(gr/100 cf)	x 1 lb/7000 gr x	(lb SO ₂ /lb S) /10	00
Fuel density (lb/ft³)	0.0448	0.0448	0.0448	0.0448
Fuel use (cf/hr)	1,851,839	1,774,675	1,702,119	1,605,235
Sulfur content (grains/ 100 cf)	1	1	1	1
lb SO ₂ /lb S (64/32)	2	2	2	2
Emission rate (lb/hr)	5.3	5.1	4.9	4.6
(TPY)	1.06	1.01	0.97	0.92
Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 : 46 (mole. wgt NOx) x 60 min				
Basis, ppmvd @15% O ₂	15	. 15	15	15
Moisture (%)	7.74	8.59	9.25	10.16
Oxygen (%)	12.39	12.2	12.12	11.99
Turbine Flow (acfm)	2,488,641	2,438,274	2,363,849	2,279,045
Turbine Exhaust Temperature (°F)	1,109	1,139	1,152	1,172
Emission rate (lb/hr)	105.1	101.2	96.5	91.1
(TPY)				
(11.1)	21.0	20.2	19.3	18.2
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Monoxide (mole. wgt CO) x 60 min/l	oisture(%)/100] x 2116.	8 lb/ft2 x Volume	e flow (acfm) x	
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/l	oisture(%)/100] x 2116.	8 lb/ft2 x Volume	e flow (acfm) x	ppm)]
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Monoxide (mole. wgt CO) x 60 min/l	oisture(%)/100] x 2116. hr / [1545 x (CT temp.(°	8 lb/ft2 x Volume °F) + 460°F) x 1	e flow (acfm) x ,000,000 (adj. for	ppm)] 9
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/l	oisture(%)/100] x 2116. hr / [1545 x (CT temp.(° 9	8 lb/ft2 x Volume °F) + 460°F) x 1	e flow (acfm) x ,000,000 (adj. for	ppm)] 9 10.16
Carbon Monoxide (lb/hr) = CO(ppm) x [1 -	oisture(%)/100] x 2116. hr / [1545 x (CT temp.(° 9 7.74	8 lb/ft2 x Volume °F) + 460°F) x 1 9 8.59	e flow (acfm) x 000,000 (adj. for 9 9.25	ppm)] 9 10.16 2,279,045
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Monoxide (mole. wgt CO) x 60 min/l Basis, ppmvd Moisture (%) Turbine Flow (acfm)	oisture(%)/100] x 2116. hr / [1545 x (CT temp.(° 9 7.74 2,488,641	8 lb/ft2 x Volume PF) + 460°F) x 1 9 8.59 2,438,274	e flow (acfm) x ,000,000 (adj. for 9 9.25 2,363,849	ppm)] 9 10.16 2,279,045 1,172
Carbon Monoxide (lb/hr) = CO(ppm) x [1 -	oisture(%)/100] x 2116. hr / [1545 x (CT temp.(* 9 7.74 2,488,641 1,109	8 lb/ft2 x Volume PF) + 460°F) x 1 9 8.59 2,438,274 1,139	e flow (acfm) x ,000,000 (adj. for 9 9.25 2,363,849 1,152	ppm)] 9 10.16 2,279,045 1,172 26.0 5.2
Carbon Monoxide (lb/hr) = CO(ppm) x [1 -	oisture(%)/100] x 2116. hr / [1545 x (CT temp.(* 9 7.74 2,488,641 1,109 30.3 6.1	8 lb/ft2 x Volume F) + 460°F) x 1 9 8.59 2,438,274 1,139 28.9 5.8 Volume flow (ac	e flow (acfm) x ,000,000 (adj. for 9 9.25 2,363,849 1,152 27.6 5.5	ppm)] 9 10.16 2,279,045 1,172 26.0 5.2
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Monoxide (lb/hr) = CO(ppm) x [1 - Monoxide (lb/hr) x 60 min/ld Basis, ppmvd Moisture (%) Turbine Flow (acfm) Turbine Exhaust Temperature (°F) Emission rate (lb/hr) (TPY) VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)	oisture(%)/100] x 2116. hr / [1545 x (CT temp.(* 9 7.74 2,488,641 1,109 30.3 6.1	8 lb/ft2 x Volume F) + 460°F) x 1 9 8.59 2,438,274 1,139 28.9 5.8 Volume flow (ac	e flow (acfm) x ,000,000 (adj. for 9 9.25 2,363,849 1,152 27.6 5.5	9 10.16 2,279,045 1,172 26.0 5.2 or ppm)]
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Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Monoxide (lb/hr) = CO(ppm) x [1 - Monoxide (lb/hr) x 60 min/ld Basis, ppmvd Moisture (%) Turbine Flow (acfm) Turbine Exhaust Temperature (°F) Emission rate (lb/hr) (TPY) VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(% 16 (mole. wgt as methane) x 60 min Basis, ppmvw Basis, ppmvd Moisture (%) Turbine Flow (acfm) Turbine Exhaust Temperature (°F)	oisture(%)/100] x 2116. hr / [1545 x (CT temp.(*) 9 7.74 2,488,641 1,109 30.3 6.1 o)/100] x 2116.8 lb/ft2 x whr / [1545 x (CT temp. 1.4 1.52 7.74 2,488,641 1,109	8 lb/ft2 x Volume °F) + 460°F) x 1 9 8.59 2,438,274 1,139 28.9 5.8 Volume flow (ac (°F) + 460°F) x 1.4 1.53 8.59 2,438,274 1,139	e flow (acfm) x ,000,000 (adj. for 9 9.25 2,363,849 1,152 27.6 5.5 efm) x 1,000,000 (adj. for 1.4 1.54 9.25 2,363,849 1,152	ppm)] 9 10.16 2,279,045 1,172 26.0 5.2 or ppm)] 1.4 1.56 10.16 2,279,045 1,172 2.57
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Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Monoxide (lb/hr) = CO(ppm) x [1 - Monoxide (lb/hr) = CO(ppm) x [1 - Monoxide (lb/hr)	oisture(%)/100] x 2116. hr / [1545 x (CT temp.(*) 9 7.74 2,488,641 1,109 30.3 6.1 o)/100] x 2116.8 lb/ft2 x whr / [1545 x (CT temp. 1.4 1.52 7.74 2,488,641 1,109 2.92	8 lb/ft2 x Volume °F) + 460°F) x 1 9 8.59 2,438,274 1,139 28.9 5.8 Volume flow (ac (°F) + 460°F) x 1.4 1.53 8.59 2,438,274 1,139 2.81	e flow (acfm) x ,000,000 (adj. for 9,25 2,363,849 1,152 27.6 5.5 efm) x 1,000,000 (adj. for 1.4 1.54 9.25 2,363,849 1,152 2.70	ppm)] 9 10.16 2,279,045 1,172 26.0 5.2 or ppm)] 1.4 1.56 10.16 2,279,045 1,172 2.57 0.51
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Monoxide (lb/hr) = CO(ppm) x [1 - Monoxide (lb/hr) x 60 min/ld Basis, ppmvd Moisture (%) Turbine Flow (acfm) Turbine Exhaust Temperature (°F) Emission rate (lb/hr) (TPY) VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(% 16 (mole. wgt as methane) x 60 min Basis, ppmvw Basis, ppmvd Moisture (%) Turbine Flow (acfm) Turbine Exhaust Temperature (°F) Emission rate (lb/hr) (TPY) Lead (lb/hr)= NA	pisture(%)/100] x 2116. hr / [1545 x (CT temp.(° 9 7.74 2,488,641 1,109 30.3 6.1 p)/100] x 2116.8 lb/ft2 x y/hr / [1545 x (CT temp. 1.4 1.52 7.74 2,488,641 1,109 2.92 0.58	8 lb/ft2 x Volume PF) + 460°F) x 1 9 8.59 2,438,274 1,139 28.9 5.8 Volume flow (ac (°F) + 460°F) x 1.4 1.53 8.59 2,438,274 1,139 2,81 0.56	e flow (acfm) x ,000,000 (adj. for 9,25 2,363,849 1,152 27.6 5.5 efm) x 1,000,000 (adj. for 1.4 1.54 9.25 2,363,849 1,152 2.70 0.54	ppm)] 9 10.16 2,279,045 1,172 26.0 5.2

Note: ppmvd= parts per million, volume dry; O_2 = oxygen.

Source: GE, 2000; Golder, 2003.

Load Condition		PEAK
Ambient Temp.	Deg F.	35.
Output	kW	190,300.
Heat Rate (LHV)	Btu/kWh	9,080.
Heat Cons. (LHV) X 10 ⁶	Btu/h	1,727.9
Auxiliary Power	kW	560
Output Net	kW	189,740.
Heat Rate (LHV) Net	Btu/kWh	9,110.
Exhaust Flow X 10 ³	lb/h	3713.
Exhaust Temp.	Deg F.	1109.
Exhaust Heat (LHV) X 10 ⁶	Btu/h	1015.9

EMISSIONS

NOx	ppmvd @ 15% O2	15.
NOx AS NO2	lb/h	105.
CO	ppmvd	9.
CO	lb/h	30.
UHC	ppmvw	7.
UHC	lb/h	15.
VOC	ppmvw	1.4
VOC	lb/h	3.
Particulates	lb/h	9.0

EXHAUST ANALYSIS % VOL.

Argon	0.89
Nitrogen	75.00
Oxygen	12.39
Carbon Dioxide	3.98
Water	7.74

SITE CONDITIONS

Elevation	ft.	45.0
Site Pressure	psia	14.68
Inlet Loss	in Water	3.0
Exhaust Loss	in Water	5.5
Relative Humidity	%	20
Fuel Type		Cust Gas
Fuel LHV	Btu/lb	20835 @ 290 °F
Application		7FH2 Hydrogen-Cooled Generator
Combustion System		9/42 DLN Combustor

Load Condition		PEAK
Ambient Temp.	Deg F.	59.
Output	kW	179,500.
Heat Rate (LHV)	Btu/kWh	9,225.
Heat Cons. (LHV) X 106	Btu/h	1,655.9
Auxiliary Power	kW	560
Output Net	kW	178,940.
Heat Rate (LHV) Net	Btu/kWh	9,250.
Exhaust Flow X 103	lb/h	3541.
Exhaust Temp.	Deg F.	1139.
Exhaust Heat (LHV) X 106	Btu/h	983.3

EMISSIONS

NOx	ppmvd @ 15% O2	15.
NOx AS NO2	lb/h	101.
CO	ppmvd	9.
CO	lb/h	29.
UHC	ppmvw	7.
UHC	lb/h	14.
VOC	ppmvw	1.4
VOC	lb/h	2.8
Particulates	lb/h	9.0

EXHAUST ANALYSIS % VOL.

Argon		0.89
Nitrogen		74.34
Oxygen	•	12.20
Carbon Dioxide		3.98
Water		8.59

SITE CONDITIONS

Elevation	ft.	45.0
Site Pressure	psia	14.68
Inlet Loss	in Water	3.0
Exhaust Loss	in Water	5.5
Relative Humidity	%	60
Fuel Type		Cust Gas
Fuel LHV	Btu/lb	20835 @ 290 °F
Application		7FH2 Hydrogen-Cooled Generator
Combustion System		9/42 DLN Combustor

Load Condition		PEAK
Ambient Temp.	Deg F.	75.
Output	kW	169,500.
Heat Rate (LHV)	Btu/kWh	9,370.
Heat Cons. (LHV) X 106	Btu/h	1,588.2
Auxiliary Power	kW	560
Output Net	kW	168,940.
Heat Rate (LHV) Net	Btu/kWh	9,400.
Exhaust Flow X 103	lb/h	3413.
Exhaust Temp.	Deg F.	1152.
Exhaust Heat (LHV) X 106	Btu/h	952.2

EMISSIONS

NOx	ppmvd @ 15% O2	15.
NOx AS NO2	lb/h	97.
CO	ppmvd	9.
CO	lb/h	28.
UHC	ppmvw	7.
UHC	lb/h	14.
VOC	ppmvw	1.4
VOC	lb/h	2.8
Particulates	lb/h	9.0

EXHAUST ANALYSIS % VOL.

Argon	0.89
Nitrogen	73.80
Oxygen	12.12
Carbon Dioxide	3.95
Water	9.25

SITE CONDITIONS

Elevation	ft.	45.0
Site Pressure	psia	14.68
Inlet Loss	in Water	3.0
Exhaust Loss	in Water	5.5
Relative Humidity	%	60
Fuel Type		Cust Gas
Fuel LHV	Btu/lb	20835 @ 290 °F
Application		7FH2 Hydrogen-Cooled Generator
Combustion System		9/42 DLN Combustor

Load Condition		PEAK
Ambient Temp.	Deg F.	95.
Output	kW	156,100.
Heat Rate (LHV)	Btu/kWh	9,595.
Heat Cons. (LHV) X 10 ⁶	Btu/h	1,497.8
Auxiliary Power	kW	560
Output Net	kW	155,540.
Heat Rate (LHV) Net	Btu/kWh	9,630.
Exhaust Flow X 10 ³	lb/h	3238.
Exhaust Temp.	Deg F.	1172.
Exhaust Heat (LHV) X 10 ⁶	Btu/h	910.7

EMISSIONS

NOx	ppmvd @ 15% O2	15.
NOx AS NO2	lb/h	91.
CO	ppmvd	9.
CO	lb/h	26.
UHC	ppmvw	7.
UHC	lb/h	13.
VOC	ppmvw	1.4
VOC	lb/h	2.6
Particulates	lb/h	9.0

EXHAUST ANALYSIS % VOL.

Argon	0.88
Nitrogen	73.06
Oxygen	11.99
Carbon Dioxide	3.91
Water	10.16

SITE CONDITIONS

Elevation	ft.	45.0
Site Pressure	psia	14.68
Inlet Loss	in Water	3.0
Exhaust Loss	in Water	5.5
Relative Humidity	%	50
Fuel Type		Cust Gas
Fuel LHV	Btu/lb	20835 @ 290 °F
Application		7FH2 Hydrogen-Cooled Generator
Combustion System		9/42 DLN Combustor

FPL PEAK FIRING - ESTIMATED PERFORMANCE WITH FOGGER ON PG7241(FA)

Load Condition		PEAK	PEAK	PEAK
Ambient Temp.	Deg F.	59.	75.	95.
Ambient Relative Humid.	%	60.	60.	50.
Fogger Status		On	On	On
Fogger Effectiveness	%	95	95	95
Fuel Type		Cust Gas	Cust Gas	Cust Gas
Fuel LHV	Btu/lb	20,835	20,835	20,835
Fuel Temperature	Deg F	290	290	290
Output	kW	183,000.	175,200.	166,100.
Heat Rate (LHV)	Btu/kWh	9,185.	9,300.	9,450.
Heat Cons. (LHV) X 10 ⁶	Btu/h	1,680.9	1,629.4	1,569.6
Auxiliary Power	kW .	560	560	560
Output Net	kW	182,440.	174,640.	165,540.
Heat Rate (LHV) Net	Btu/kWh		9,330.	9,480.
Exhaust Flow X 10 ³	lb/h	9,210.		
		3588.	3478.	3356.
Exhaust Temp.	Deg F.	1130.	1145.	1158.
Exhaust Heat (LHV) X 10 ⁶	Btu/h	995.4	972.4	945.9
EMISSIONS				
<u>EMISSIONS</u>				
NOx	ppmvd @ 15% O2	15.	15.	15.
NOx AS NO2	lb/h	103.	99.	96.
CO	ppmvd	9.	9.	9.
CO	lb/h	29.	28.	27.
UHC		7.	7.	7.
UHC	ppmvw lb/h	7. 14.	7. 14.	13.
	and the second s			
VOC	ppmvw	1.4	1.4	1.4
VOC	lb/h	2.8	2.8	2.6
Particulates	lb/h	9.0	9.0	9.0
EXHAUST ANALYSIS	% VOL.			
A =====		0.89	0.87	0.87
Argon				
Nitrogen		74.14	73.54	72.64
Oxygen		12.15	12.01	11.81
Carbon Dioxide		3.98	3.97	3.95
Water		8.84	9.61	10.73
SITE CONDITIONS				
Elevation	ft.	45.0		
Site Pressure	psia	14.68		
Inlet Loss	in Water	3.0		
Exhaust Loss	in Water	5.5	. ~	1 10
Application				led Generator
Combustion System		9/42 DLN	Combusto	r

FPL GAS FUEL LOAD AT 59°F AND 60% REL.HUMIDITY – ESTIMATED PERFORMANCE PG7241(FA)

Load Condition		BASE
Ambient Temp.	Deg F.	59.
Fuel Type		Cust Gas
Fuel LHV	Btu/lb	20,835
Fuel Temperature	Deg F	290
Output	kW	173,000.
Heat Rate (LHV)	Btu/kWh	9,250.
Heat Cons. (LHV) X 106	Btu/h	1,600.3
Auxiliary Power	kW	560
Output Net	kW	172,440.
Heat Rate (LHV) Net	Btu/kWh	9,280.
Exhaust Flow X 103	lb/h	3539.
Exhaust Temp.	Deg F.	1116.
Exhaust Heat (LHV) X 106	Btu/h	951.8

EMISSIONS

NOx	ppmvd @ 15% O2	9.
NOx AS NO2	lb/h	59.
CO	ppmvd	9.
CO	lb/h	29.
UHC	ppmvw	7.
UHC	lb/h	14.
VOC	ppmvw	1.4
VOC	lb/h	2.8
Particulates	lb/h	9.0

EXHAUST ANALYSIS % VOL.

Argon	0.88
Nitrogen	74.42
Oxygen	12.44
Carbon Dioxide	3.87
Water	8.39

SITE CONDITIONS

Elevation	ft.	45.0
Site Pressure	psia	14.68
Inlet Loss	in Water	3.0
Exhaust Loss	in Water	5.5
Relative Humidity	%	60

Application 7FH2 Hydrogen-Cooled Generator

Combustion System 9/42 DLN Combustor

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NEWS-PRESS

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Affidavit of Publication

STATE OF FLORIDA COUNTY OF LEE

Before the undersigned authority, personally appeared

Ellen M. Polanshek

who on oath says that he/she is the

Asst. Legal Clerk

of the News-Press, a

daily newspaper, published at Fort Myers, in Lee County, Florida; that the attached copy of advertisement, being a

notice of intent

in the matter of

DEP Permit to Florida Power & Light

Court was

published in said newspaper in the issues of

July 15, 2003

Affiant further says that the said News-Press is a paper of general circulation daily in Lee, Charlotte, Collier, Glades and Hendry Counties and published at Fort Myers, in said Lee County, Florida and that said newspaper has heretofore been continuously published in said Lee County; Florida, each day, and has been entered as a second class mail matter at the post office in Fort Myers in said Lee County, Florida, for a period of one year next preceding the first publication of the attached copy of the advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Sworn to and subscribed before me this

25th day of July, 2003 by

Ellen M. Polanshek

personally known to me or who has produced

as identification, and who did or did not take an

Notary Public

Print Name

My commission Expires:



PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION DEP File No. 0710002-014-AC Florida Power & Light Fort Myers Plant Peak Mode of Operation for the 1500 Megawatt Combined Cycle Combustion Turbines Lee County The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Florida Power & Light Company (FPL). The original permit (0710002-004-AC) issued on November 25, 1998, allowed the installation of six combined cycle units that replaced two (2) residual oil-fired steam generators at the Fort Myers Plant near Tice, Lee County. A Best Available Control Technol og (BACT) determination was not required for the original permit and is not required for this project pursuant to Rule 62-212.400, F.A.C. The applicant's name and address are Florida Power & Light, Fort Myers Plant, Post Office Box 430. Fort Myers Plant, Post Office

Rule 62-212.400, F.A.C.
The applicant's name and address are Floridad Power & Light, Fort Myers Plant, Post Office Box 430, Fort Myers, Florida 33905.

The permit is to allow peak operation mode up to 400 hours per year for each of the six combined cycle turbines. Peaking is expected to increase short term NOx emissions from 9 to 15 ppmvd for each turbine and 51 TPY for all six turbines due to higher temperatures during this mode. However, due to the substantial emissions decrease of this pollutant during the permitting of the repowering project, this project will not result in a PSD significant net increase of NOX emissions or any other criteria pollutants. Therefore, an air quality impact analysis was not required.

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 com-

sults in a different decision or significant change of terms or conditions.

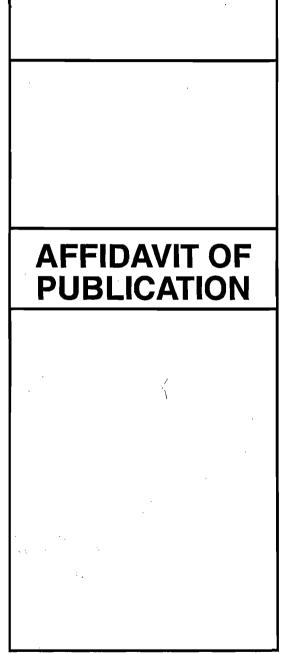
The Department will accept written comments concerning the proposed permit issuance action for a period of fourteen (14) days from the date of publication of Public Notice of Intent to Issue Air Construction Permit. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed remit and require, if applicable, another Public Notice.

This Fort Myers Project is not subject to review under Section 403.506 F.S. (Power Plant Sitting Act), because it provides for no expansion in steam generating capacity.

BUREAU OF AIR REGULATION

tions 120:569 and 120.57
F.S., or to intervene in participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the petitioner's rule and 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 determination; (d) A statement of how and when petitioner contends warrant reversal or modification or proposed action; (d) A statement of 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 warrant reversal or modification of the agency's proposed action; (h) 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 agency's proposed action; and (g) A statement of the petitioner wishes the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action; and otherwise 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



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

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station # 35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3) of the Florida Statutes must be filed within fourteen days of receipt of this notice of intent, whichever occurs first. Under Section 120.60(3), however, any person who asked the Department for notice or agency action may file a petition within fourteen days of receipt of this notice of intent, whichever occurs first. Under Section 120.60(3), however, any person who asked the Department for notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under Section 120.60(3), however, any person so the filing. The failure of any person to file a petition within fourteen days of receipt of this notice of intent, whichever occurs first. Under Section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of this notice of intent, whichever occurs first. Under Section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of thing files the d

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

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at: Florida Department of Environmental Protection, Bureau of Air Regulation, Ill S. Magnolla Drive, Suite 4, Tallahassee, Florida, 32301 Telephone: (850) 488-0114 Fax: (850) 922-6979 Florida Department of Environmental Protection, South District Office, 295 Victoria Avenue, Suite 364, Fort Myers, Florida 33902-2549 Telephone: (941) 332-6975 Fax: (941) 332-6975 Fax: (941) 332-6979 The complete project file includes the application, technical evaluations, Draft Permit, and the information, South District Office, 295 Victoria Avenue, Suite 36, 4, Fort Myers, Florida 33902-25499 The complete project file includes the application, technical evaluations, Draft Permit, and the information, South District Office, 1975 Fax: (941) 332-6979 The complete project file includes the application, technical evaluations, Draft Permit, and the information, The Department's technical evaluations and Draft Permit on and Draft Permit on the Administrator, New Resource Review Section at 113 South Magnotical Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information. The Department's technical evaluations and Draft Permit on the Viewed at www.dep.state.fl.us/air / permitting.htm

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1. Article Addressed to: Mr. William Reichel Plant General Manager Florida Power & Light Post Office Box 430	If YES, enter delivery address below:
Ft. Myers, FL 33905	3. Service Type A Certified Mail
	4. Restricted Delivery? (Extra Fee) ☐ Yes
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