Florida Department of Environmental Protection

TO:

Michael G. Cooke M

THRU:

Trina L. Vielhauer

A.Linero

FROM:

Teresa Heron

DATE:

August 25, 2003

SUBJECT:

Peaking Mode of Operation for the Eight Combined Cycle Combustion Turbines.

FPL Sanford 2200 MW Project

DEP File No. 1270009-009-AC and PSD-FL-270D

Attached is the final permit package 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 eight combined cycle turbines. Peaking is expected to increase short term NOx emissions from 9 to 15 ppmvd for each turbine and 68 TPY for all eight 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 1999 repowering project at the site.

We recommend your approval of the attached final permit package.

AAL/th

Attachments

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION NOTICE OF PERMIT

In the Matter of an Application for Permit Modification by:

Ms. Roxane Kennedy, Plant General Manager FPL Sanford Plant 950 South Highway 17-92 DeBary, Florida 32713 DEP File No. 1270009-009-AC and PSD-FL-270D Peak Mode of Operation Project 2200 MW Combined Cycle Combustion Turbines Volusia County

Enclosed is the Final Permit Number 1270009-009-AC and PSD-FL-270D for an air construction permit to authorize peak mode operation for each 250 MW combined cycle turbine at the Sanford Power Plant in Volusia 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

Vielhaur

CERTIFICATE OF SERVICE

Roxane Kennedy, FPL*
Len Kozlov, DEP CD
Gregg Worley, EPA
John Bunyak, NPS
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.

Clerk)

FINAL DETERMINATION

Florida Power and Light Company (FPL)
Sanford Power Plant, Volusia County
2200 MW Combined Cycle Turbines Peak Mode of Operation
DEP File No. 1270009-009-AC and PSD-FL-270 D

An Intent to Issue an air construction permit authorizing peak operation mode up to 400 hours per year for each of the eight combined cycle turbines at the Sanford Power Plant in Volusia County was distributed on April 22, 2003. The applicant's name and address are Florida Power & Light, Sanford Plant, 950 South Highway 17-92, DeBary, Florida 32713.

The Public Notice of Intent to Issue Air Construction Permit was published in The News-Journal on July 31, 2003. Comments from FPL and the DEP Central District were received as a result of the Public Notice.

FPL requested to revise Specific Condition No. 50 to clarify that the lb/hr emissions are at ISO conditions and to revise Specific Condition No. 51 to include testing requirement for only two of the eight units. The Central District requested to define full load and peak load in terms of the heat input based on high or low heating value or in a manner that allows the field inspector to determine whether the turbine is operating at full or peak load. They also commented on the need for compliance stack testing for all eight units but are agreeable with representative testing for peak operation.

The Department considered FPL's request and revised Specific Conditions No. 50 and 51 as follows:

50. 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 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. CEMS data collected during peaking mode operation shall be excluded from the demonstration of compliance with the NOx standards during normal gas firing.

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

51. <u>Compliance Procedures</u>: 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 eight units.</u>

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

Regarding the Central District's comment, we refer to Specific Condition 49 (revised as shown below) that states the heat input based on the maximum heat input rate at high-temperature peak mode. This is, 1,838 million Btu per hour (HHV) which is equivalent to 1,656 million Btu per hour (LHV).

This condition is modified as follows:

49. Each gas turbine may operate in a high-temperature peaking mode when firing natural gas 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 1,838 MMBtu per hour in peak mode operation (based on a compressor inlet air temperature of 59° F and the lower-higher heating value (LHHV) of natural gas, and 100% load). [Applicant Request, Rules 62-210.200 (Definitions-Potential Emissions), and 62-4.070(3), F.A.C.].

In reference to the *full load*, Specific Condition No. 9 of the original PSD-Fl-270 permit states: "The design heat input rates for natural gas firing, based on the high heating value (HHV) of the fuel to *each* combustion turbine at compressor inlet conditions of 59°F, 60% relative humidity, 100% load, and 14.7 psia is 1,776 million Btu per hour (MMBtu/hr). The design heat input for oil firing is 1,930 MMBtu/hr (HHV, 60% relative humidity, 100% load, 59°F compressor inlet and 14.7 psia)". The 1,776 million Btu per hour (HHV) is equivalent to 1,600 million Btu per hour (LHV) for gas firing and the 1,930 million Btu per hour (HHV) is equivalent to 1,820 million Btu per hour (LHV) for oil firing.

Regarding testing, we consider testing of two units to be representative of all eight units. These units are identical. This facility did not trigger PSD review for NOx or CO due to the substantial contemporaneous decreases as a result of the repowering project.

The sequence of the permit numeration was revised to PSD-FL-270C **D**. The project modification No.1270009-008-AC/PSD-FL-270AC issued on 3/18/03 was added to the language in Specific Condition 48.

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 Sanford Power Plant 950 South Highway 17-92 DeBary, Florida 32713

Authorized Representative:

Roxane Kennedy Plant General Manager

Permit No. 1270009-009-AC (PSD-FL-270 D)

Project: 2200 MW Repowering Project SIC No. 4911

Expires: July 1, 2004

PROJECT AND LOCATION:

This permit modification authorizes peak operation mode for up to 400 hours per year for each of the existing eight combined cycle combustion turbines that comprise the 2200 MW repowering project. The eight combined cycle units have been constructed, tested, and are in operation. 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 950 South Highway 17-92, DeBary, Volusia County. UTM coordinates are: Zone 17; 468.3 km E and 3,190.3 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).

Michael G. Cooke, Director Division of Air Resources

Mulul S. Coole

Management

AIR CONSTRUCTION PERMIT MODIFICATION 1270009-009-AC AND PSD-FL-270D SPECIFIC CONDITIONS

- 47. This permit modification (No.1270009-009-AC/PSD-FL-270D) regulates emissions during high temperature peaking mode operation and modifies original Permit No.1270009-004-AC/PSD-FL-270 issued on 9/14/99.
- 48. The provisions of the original air construction permit No.1270009-004-AC/PSD-FL-270 issued on 9/14/99, the administrative correction (No.1270009-004-AC/PSD-FL-270A) issued on 5/2/00, the authorization for excess emissions following a rotor blade change-out (No.1270009-004-AC/PSD-FL-270B) issued on 3/18/03 and the modification of Specific Conditions 24, 33 and 46 (No.1270009-008-AC/PSD-FL-270C) issued on 3/18/03 remain as originally issued except for these additional new specific conditions.
- 49. Each gas turbine may operate in a high-temperature peaking mode when firing natural gas 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 and the higher heating value (HHV) of natural gas).

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

50. 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 005-012	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. CEMS data collected during peaking mode operation shall be excluded from the demonstration of compliance with the NOx standards during normal gas firing.

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

51. 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.

AIR CONSTRUCTION PERMIT MODIFICATION 1270009-009-AC AND PSD-FL-270D SPECIFIC CONDITIONS

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.

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 eight units.

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

- 52. <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.]
- 53. Expiration Date: The expiration date of original permit No.1270009-004-AC/PSD-FL-270 is extended from December 31, 2003 to July 1, 2004.

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.	C. Signature Agent Addressee
1. Article Addressed to: Ms. Roxane Kennedy Plant General Manager FPL - Sanford Plant	D. Is delivery address different from them to 17683 If YES, enter/delivery address below: No
950 South Highway 17-92 DeBary, FL 32713	3. Service Type Certified Mail
	4. Restricted Delivery? (Extra Fee) Yes
² 7001 0320 0001 3692 5344	
PS Form 3811, July 1999 Domestic Return	rn Receipt 102595-99-M-1789

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The News-Journal

Published Daily and Sunday Daytona Beach, Volusia County, Florida AUG 06 2003

State of Florida, BUREAU OF AIR REGULATION County of Volusia:

Before the undersigned authority personally appeared

Kathleen Mayes

Who, on oath says that she is

Classified Sales Manager

of The News-Journal, a daily and Sunday newspape published at Daytona Beach in Volusia County, Florida that the attached copy of advertisement, being a Public Notice

in the matter of of Intent to Issue Air Construction Permit Modification

in the

Court was published in said newspaper in the issues July 31, 2003

Affiant further says that The News-Journal is newspaper published at Daytona Beach, in said Volusi County, Florida, and that the said newspaper ha heretofore been continuously published in said Volusia County, Florida, each day and Sunday and has been entered as second-class mail matter at the post office in Daytona Beach, in said Volusia County, Florida, for a period of one year next preceding the first publication o the attached copy of advertisement; and affiant furthe says that 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.

Kaymo

Sworn to and subscribed before me

July this 31st day of



ANITA MARIE SAUNDERS Notary Public, State of Florida My Comm. Exp. Aug. 30, 2003 Camm. No. CC 867646

LEGAL ADVERTISEMENT

PUBLIC NOTICE OF INTENT
TO ISSUE AIR CONSTRUCTION
PERMIT MODIFICATION
DEP File No. 127009-009-AC
and PSDF-1270C
Florida Power & Light
Sanford Plant
Peak Mode of Operation for the
2200 Megawatt Combined Cycle
Combustion Turbines
Volusia County
The Department of Environmental Protection (Department) gives
notice of its intent to issue an air
construction permit modification
to Florida Power & Light Company
(FPL) The original permit issued
on September 4, 1999 allowed the
installation of eight combined cycle units that replaced two (2) residual oil and gas fired steam
generators at the Sanford Plant
near DeBary, Volusia County. A
Best Available Control Technology (BACT) determination was required for the original project
(VOC emissions only) and is not
required for the original project
plicant's name and address are
Florida Power & Light, Sanford
Plant, 950 South Highway 17-92,
DeBary, Florida 32713.
The permit modification is to allow peak operation mode up to 400
hours per year for each of the eight
combined cycle combustion turbines. Peaking is expected to increase short term NOx emissions
from 9 to 15 ppmvd for each 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 modification with
the attached conditions unless a
response received in accordance
with the following procedures results in a different decision or significant change of terms or
conditions.

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

The Department's Bureau of Air
regulation at 2600 Blair Stone
R

This Sanford 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 caractivity.

Act), because it provides for no expansion in steam generating capacity.

The Department will issue the permit modification with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S., before the deadline for filling 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 filled (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), F.S., however, any person who asked the Department for notice of agency action may file a petition within fourteen days of the dath of t

Florida Department of Environmental Protection

TO:

Trina L. Vielhauer

THRU:

For A. A. Linero

FROM:

Teresa Heron

DATE:

July 11, 2003

SUBJECT:

Peaking Mode of Operation for the Eight Combined Cycle Combustion Turbines.

FPL Sanford 2200 MW Project

DEP File No. 1270009-009-AC and PSD-FL-270C

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 eight combined cycle turbines. Peaking is expected to increase short term NOx emissions from 9 to 15 ppmvd for each turbine and 68 TPY for all eight 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 1999 repowering project at the site.

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

AAL/th

Attachments

& Dane as Ft. Myers'

P.E. CERTIFICATION STATEMENT

PERMITTEE'

FPL Sanford Power Plant 950 South Highway 17/92 Debary, FL 32713

Draft Air Permit No. 1270009-009-AC Project: Peaking Mode Operation Emissions Units 005 - 012 Volusia County, Florida

PROJECT DESCRIPTION

FPL requests the capability to operate their eight new combined cycle gas turbines (Units 4A-4D and 5A-5D) 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. The eight combined cycle units have been constructed, tested, and are in operation. Only minimal work on the control system is necessary to implement the requested peaking mode of operation.

Based on the application, the project will result in the following potential emissions increases for all eight gas turbines combined: 0.2 TPY of CO; 68 TPY of NOx; 0.3 TPY of SO2; and negligible increases of PM, SAM, and VOC. These increases represent the differences between 400 hours of normal gas firing and 400 hours of gas firing while in the peaking mode. Only NOx emissions have the potential to exceed the PSD significant emission rate and trigger PSD preconstruction review. However, the original "re-powering" project required the shutdown of existing oil-fired Boilers 4 and 5, which resulted in large emissions decreases for all pollutants and a more than 7000 TPY decrease of NOx from the project. Boilers 4 and 5 were eventually retired in 2001 and 2002, which is well within the 5 year contemporaneous period of the current request. Therefore, there will be no net emissions increases from this project due to the contemporaneous emissions decreases from the previous re-powering project.

The draft permit modification 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 block average. Compliance will be demonstrated by data collected from the existing NOx CEMS. This project is considered a permit modification because the original construction permit for the eight combined cycle, units, does not expire until December of 2003. The specific conditions are in addition to the original specific conditions in Permit PSD-FL-270. The permit expiration date is extended to July 1, 2004 to allow sufficient time to perform the work, conduct testing, and submit an application to revise the Title V air operation permit.

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

(Date)



Department of Environmental Protection

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

David B. Struhs Secretary

July 11, 2003

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Roxane Kennedy, Plant General Manager FPL Sanford Plant 950 South Highway 17-92 DeBary, Florida 32713

Re: DEP File No. 1270009-009-AC, PSD-FL-270C

FPL Sanford Plant - Peak Mode of Operation 2200 MW Combined Cycle Combustion Turbines

Dear Ms. Kennedy,

Enclosed is one copy of the Intent to Issue, Draft Air Construction Permit, and Technical Evaluation and Preliminary Determination for the referenced project at the FPL Sanford Plant, 950 South Highway 17-92, DeBary, Volusia County. The Department's Intent to Issue Air Construction Permit and the "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION" are also included.

The "<u>PUBLIC NOTICE</u>" 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 Mr. 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,

June I Vielhauer

Bureau of Air Regulation

TLV/th

Enclosures

In the Matter of an Application for Permit Modification by:

Ms. Roxane Kennedy, Plant General Manager FPL Sanford Plant 950 South Highway 17-92 DeBary, Florida 32713

DEP File No. 1270009-009-AC and PSD-FL-270C Peak Mode of Operation Project 2200 MW Combined Cycle Combustion Turbines Volusia County

INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit modification (copy of DRAFT Permit Modification attached) for the proposed project, detailed in the application specified above and the 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 modify and operate the eight (8) combustion turbines associated with Units 4A through 4D and Units 5A through 5D in Peak Firing Mode for up to 400 hours per year at the Sanford Plant near DeBary, Volusia 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 modification is required to perform proposed work.

The Department intends to issue this air construction permit modification 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 Modification. 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 modification. Failure to publish the notice and provide proof of publication may result in the denial of the permit modification pursuant to Rules 62-110.106(9) & (11), F.A.C.

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

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

DEP File 1270009-009-AC Page 2 of 3

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

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

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

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

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

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

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented

DEP File 1270009-009-AC Page 3 of 3

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

Zum LVrdhaun

CERTIFICATE OF SERVICE

Roxane Kennedy, FPL*
Len Kozlov, DEP CD
Gregg Worley, EPA
John Bunyak, NPS
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 MODIFICATION

DEP File No. 1270009-009-AC and PSD-FL-270C
Florida Power & Light Sanford Plant
Peak Mode of Operation for the 2200 Megawatt Combined Cycle Combustion Turbines
Volusia County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit modification to Florida Power & Light Company (FPL). The original permit issued on September 4, 1999 allowed the installation of eight combined cycle units that replaced two (2) residual oil and gas fired steam generators at the at the Sanford Plant near DeBary, Volusia County. A Best Available Control Technology (BACT) determination was required for the original project (VOC emissions only) 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, Sanford Plant, 950 South Highway 17-92, DeBary, Florida 32713.

The permit modification is to allow peak operation mode up to 400 hours per year for each of the eight combined cycle combustion turbines. Peaking is expected to increase short term NOx emissions from 9 to 15 ppmvd for each turbine and 68 TPY for all eight 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 modification with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit modification issuance action for a period of fourteen (14) days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit Modification." 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 modification and require, if applicable, another Public Notice.

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

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

notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period 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: 850/488-1344

Fax: 850/922-6979

Florida Department of Environmental

Protection

Central District Office

3319 Maguire Boulevard, Suite 232

Orlando, Florida 32803-3767

Telephone: 407/894-7555

Fax: 407/897-5963

The complete project file includes the application, technical evaluations, Draft Permit Modification, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, New 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 Modification 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

Sanford Power Plant
Peak Mode of Operation
Volusia County

DEP File No. 1270009-009-AC/PSD-FL-270C

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

1. <u>APPLICATION INFORMATION</u>

1.1 Applicant Name and Address

Florida Power & Light Company Sanford Power Plant 950 South Highway 17-92 DeBary, Florida 32713

Authorized Representative: Roxane Kennedy, Plant General Manager

1.2 Reviewing and Process Schedule

05-15-03: Date of Receipt of Application

05-15-03: Application completed

07-11-03: Intent Issued

2. FACILITY INFORMATION

2.1 Facility Location

Refer to Figure 1 and 2. The Sanford Plant is located in the City of DeBary, Volusia County, on 1,700 acres, west of Highway 17-92 and approximately 3 miles northeast of Sanford. This site is approximately 130 kilometers from Chassahowitzka National Wilderness Area, a Class I PSD Area.

The UTM coordinates of this facility are Zone 17; 468.3 km E; 3,190.3 km N.

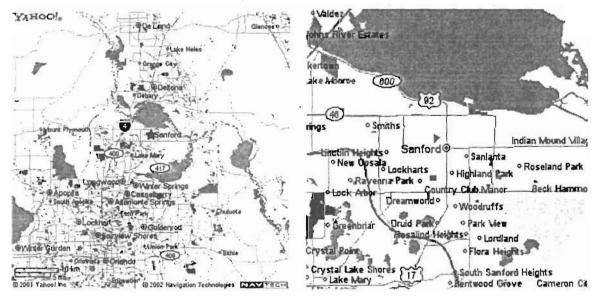


Figure 1 – Regional Location

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 Sanford generates electric power from eight natural gas/oil fired combined cycle combustion turbines (2200 MW) and a residual 156 MW fuel oil-fired and gas-fired steam unit (Unit 3). The new eight natural gas/oil fired combined cycle units replaced two residual fuel oil-fired units (Units 4 &5) and are repowering the existing electrical generators associated with those units. The 1999 project increased the nominal capacity of the plant from 1028 MW to approximately 2356 MW. Figure 3 shows a similar project at Ft.Myers.

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 required for this project.

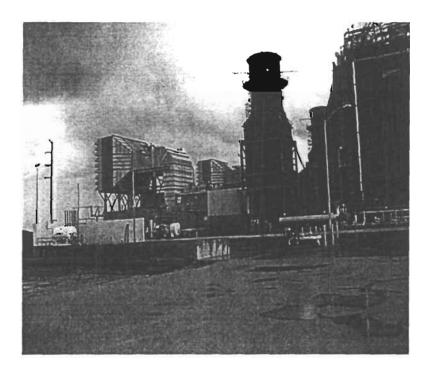


Figure 3

View of Combined Cycle Combustion Gas Turbines at the Ft. Myers Plant

3. PROJECT DESCRIPTION

This permit addresses the following emissions units:

J	Emission Unit No.	System	EMISSION UNIT DESCRIPTION
4	ARMS No. 005-012	Power Generation	Eight (8) Combined Cycle Combustion Turbine-Generators with Unfired Heat Recovery Steam Generators

These units were permitted in 1999 as a result of the shutdown of boilers No. 4 and No. 5.

FPL proposes to operate the combustion turbines associated with Units 4A through 4D and 5A through 5D (ARMS Units 005-012) 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 1999 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 1270009-004-AC and Technical Evaluation and Preliminary Determination issued in 1999.

4. RULE APPLICABILITY

This 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 Volusia 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 (including the 1999 repowering project), 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 1270009-004-AC and the Request for Peaking Mode of Operation

Emission Unit	NO _x	со	VOC BACT	PM/Visibility (% Opacity)	Technology and Comments
Combustion Turbines	9 ppmvd (baseload gas) 15 pmvd (peaking gas) 42 ppm - oil	12 ppmvd gas 22 ppmvd oil 9 ppmvd (peaking gas)	1.4 ppmvd gas 7 ppmvw oil	10 - gas 20 - oil	Dry Low NO _x Combustors Natural Gas, Good Combustion, Water Injection (oil), Low sulfur distillate oil

Note: Compliance with the NOx standard shall be based on CEMS data.

Standard operation: When burning gas, 30-days average time for an emission rate of 9 ppmvd NOx @ 15% O₂. When burning oil, 24-hr average time for an emission rate of 42 ppmvd NOx @ 15% O₂

Peaking Operation: When burning gas, 24-hr block average for an emission rate of 15 ppmvd NOx @ 15% O₂. Peaking mode of operation shall be excluded from compliance with the 30-day rolling average standard rate of 9 ppmvd NOx @ 15% O₂ for standard gas firing.

6. SOURCE IMPACT ANALYSIS

6.1 Emissions

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 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 1999, the Department issued a PSD construction permit for the 2200 MW repowering project. The project was subject to PSD review and a BACT determination for only VOC emissions. The potential emissions from this project are: PM/PM₁₀ 387/374 TPY; SAM 423 TPY; SO₂ 279 TPY; NOx 2745 TPY; CO 1719 TPY; and VOC 124 TPY.

In 2001 and 2002, existing Boilers 4 and 5 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 4 and 5.

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 the 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 (TPY)

Pollutant	Past Actual (a) Emissions (Units 4 and 5)	Past Changes (b) Emissions (Repowered)	Future Changes ^(c) Emissions (Peak Mode)	Total Changes (d) Increase (decrease)	PSD Significance	PSD Review?
PM/PM ₁₀	-538	374	Negligible	(164)	25/15	No
SAM	-1,276	42.3	Negligible	(1,234)	7	No
SO ₂	-28,729	279	0.32	(28,450)	40	No
NO _X	-9,984	2,757	68	(7,159)	40	No
VOC	-67	124	0.032	57 ^(e)	40	No
со	-2,906	1,719	0.16	(1,188)	100	No

Notes:

- (a) Decreases from shutdown of Boilers 4 and 5
- (b) Past Emissions Increases: Repowering Project (1999).
- (c) Future Emissions Increase: Peak Mode Operation for the eight (8) Combined Cycle Combustion Gas Turbines (this represents the difference in potential emissions between normal gas firing and peaking).
- (d) Total Changes: Contemporaneous Emissions Increases from both projects 1999-2003.
- (e) This facility went through PSD review and BACT determination for VOC in 1999 during the permitting of the 2200 MW Repowering project. The increase of VOC emissions from the peak mode operation is 0.032 TPY. Emissions are calculated at a turbine inlet temperature of 59° F.

6.3 Air Quality Analysis

The proposed project (when considering contemporaneous changes) will not result in the net increase of emissions of any pollutants in excess of the PSD significant emission rates. Therefore, an analysis of the air quality impact from proposed project is not required.

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 Bureau of Air Regulation

PERMITTEE:

Florida Power & Light Company Sanford Power Plant 950 South Highway 17-92 DeBary, Florida 32713

Authorized Representative:

Roxane Kennedy Plant General Manager

Permit No. 1270009-009-AC (PSD-FL-270C) Project: 2200 MW Repowering Project SIC No. 4911 Expires: July 1, 2004

PROJECT AND LOCATION:

This permit modification authorizes peak operation mode for up to 400 hours per year for each of the existing eight combined cycle combustion turbines that comprise the 2200 MW repowering project. The eight combined cycle units have been constructed, tested, and are in operation. 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 950 South Highway 17-92, DeBary, Volusia County. UTM coordinates are: Zone 17; 468.3 km E and 3,190.3 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).

Joseph Kahn, Acting Director Division of Air Resources Management

AIR CONSTRUCTION PERMIT MODIFICATION 1270009-009-AC AND PSD-FL-270C SPECIFIC CONDITIONS

- 47. This permit modification (No.1270009-009-AC/PSD-FL-270C) regulates emissions during high temperature peaking mode operation and modifies original Permit No.1270009-004-AC/PSD-FL-270 issued on 9/14/99.
- 48. The provisions of the original air construction permit No.1270009-004-AC/PSD-FL-270 issued on 9/14/99, the administrative correction (No.1270009-004-AC/PSD-FL-270A) issued on 5/2/00 and the authorization for excess emissions following a rotor blade change-out (No.1270009-004-AC/PSD-FL-270B) issued on 3/18/03 remain as originally issued except for these additional new specific conditions.
- 49. Each gas turbine may operate in a high-temperature peaking mode when firing natural gas 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 natural gas, and 100% load). [Applicant Request, Rules 62-210.200 (Definitions-Potential Emissions), and 62-4.070(3), F.A.C.].

50. 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.

	Emission Unit ARMS 005-012	NO _X CO	VOC	PM/Visibility / (% Opacity)	Technology and Comments
٠	Combustion Turbines (each)	15 ppmvd (24-hr block avg) 9 ppmvd 102 lb/hr 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. CEMS data collected during peaking mode operation shall be excluded from the demonstration of compliance with the NOx standards during normal gas firing.

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

51. 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.

AIR CONSTRUCTION PERMIT MODIFICATION 1270009-009-AC AND PSD-FL-270C SPECIFIC CONDITIONS

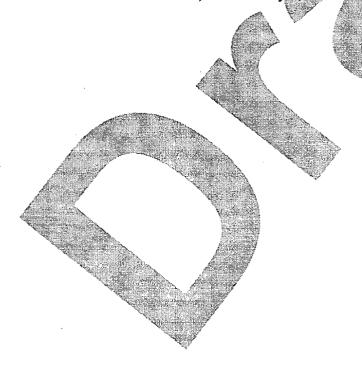
EPA Reference Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources".

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.

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

- 52. <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.]
- 53. Expiration Date: The expiration date of original permit No.1270009-004-AC/PSD-FL-270 is extended from December 31, 2003 to July 1, 2004.



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. 	A. Received by (Please Print Clearly) B. Date of Delivery 7-18-03 C. Signature Agent Addressee D. Is delivery address difference print Riam to 19 Yes
Article Addressed to:	If YES, enter delivery oddress below: No
Ms. Roxane Kennedy, Plant General Manag FPL Sanford Plant 950 South Highway 17-92 DeBary, FL 32713	JUL 1 8 2003
Detaily, FL 32/13	3. Service Type Certified Mail Registered Insured Mail C.O.D.
	4. Restricted Delivery? (Extra Fee)
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MAY 15 2003

BUREAU OF AIR REGULATION

PEAK FIRING MODE PERMIT APPLICATION FLORIDA POWER & LIGHT COMPANY SANFORD POWER PLANT - UNITS 4 AND 5 DEBARY, 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 ECEIVED

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)

I. APPLICATION INFORMATION

Identifi	ication (of Facilit	ty

Facility Owner/Company Name: Florida Power and Light Company Site Name:	
2. Site Name:	
Sanford Plant	
3. Facility Identification Number: 1270009 [] Unknown	
4. Facility Location:	
Street Address or Other Locator: 950 South Highway 17-92	
City: DeBary County: Volusia - Zip Code: 32713	
5. Relocatable Facility? 6. Existing Permitted Facility?	
[] Yes [X] No [X] Yes [] No	
Application Contact	
1. Name and Title of Application Contact:	_
Mary Archer, Principal Environmental Specialist	
2. Application Contact Mailing Address:	
Organization/Firm: FPL Environmental Services Dept. [JES/JB]	
Street Address: 700 Universe Blvd.	
City: Juno Beach State: FL Zip Code: 33408	
3. Application Contact Telephone Numbers:	
Telephone: (561) 691-7057 Fax: (561) 691-7070 or 691-7049	
Application Processing Information (DEP Use)	
1. Date of Receipt of Application: 3-15-03	
2. Permit Number: 3-15-03 1. Date of Receipt of Application: 3-15-03 127 0009-009-AC	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

5/14/03

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:

Roxane Kennedy, Plant General Manager

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

Organization/Firm: FPL Sanford Plant

Street Address: 950 South Highway 17-92

City: DeBary

State: FL

Zip Code: **32713**

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

Telephone: (386) 575-5211

Fax: (386) 575-5233

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

Professional Engineer Certification

1. Professional Engineer Name: Kennard F. Kosky

Registration Number: 14966

2. Professional Engineer Mailing Address:

Organization/Firm: Golder Associates Inc.*

Street Address: 6241 NW 23rd Street, Suite 500

City: Gainesville State: FL

3. Professional Engineer Telephone Numbers:

Telephone: (352) 336 - 5600

Fax: (352) 336 - 6603

Zip Code: **32653-1500**

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

^{*}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.

Tremal 7. Kary	5/14/03	
Signature	Date	
(seâl)		

* Attach any exception to certification statement.

etate 0: EP Form Nor62-2-10,900(1) - Form

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit	Processing
		Туре	Fee
004	Combined Cycle Combustion Turbine Generator 4A CT with Heat Recovery Steam Generator	AC1B	NA .
005	Combined Cycle Combustion Turbine Generator 4B CT with Heat Recovery Steam Generator	AC1B	NA
006	Combined Cycle Combustion Turbine Generator 4C CT with Heat Recovery Steam Generator	AC1B	NA
007	Combined Cycle Combustion Turbine Generator 4D CT with Heat Recovery Steam Generator	AC1B	NA
009	Combined Cycle Combustion Turbine Generator 5A CT with Heat Recovery Steam Generator	AC1B	NA
010	Combined Cycle Combustion Turbine Generator 5B CT with Heat Recovery Steam Generator	AC1B	NA
011	Combined Cycle Combustion Turbine Generator 5C CT with Heat Recovery Steam Generator	AC1B	NA
012	Combined Cycle Combustion Turbine Generator 5D CT with Heat Recovery Steam Generator	AC1B	NA
		· · · · · · · · · · · · · · · · · · ·	

Application Processing Fee

Check one: [1 Attached Amount: C:	[v 1	Not Applicable
Check one: [] Attached - Amount: \$:	[X]	Not Applicable

Construction/Modification Information

	Marian Ma
1.	Description of Proposed Project or Alterations:
	This application is requesting a construction permit to operate combustion turbines associated with Units 4A through 4D and Units 5A through 5D 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: JULY 1, 2004
Aı	oplication Comment

See Part II.			

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

l.	Facility UTM Coord	dinates:		
	Zone: 17	East (km):	468.3	North (km): 3190.3
2.	Facility Latitude/Lo Latitude (DD/MM/S	<u> </u>	Longitude (DD	D/MM/SS): 81 / 19 / 32
3.	Governmental Facility Code:	4. Facility Status Code:	5. Facility Major Group SIC Co	7
	0	A	49	4911
~	E- 114 C 4 C	1' '4 - 500 1 4)		

7. Facility Comment (limit to 500 characters):

The existing Sanford facility consists of 1 Fossil-Fired Steam Generators (FFSG) and two combined cycle units. FFSG Unit 3 is fired with No. 6 residual fuel oil, No. 2 fuel oil, and natural gas. The FFSG associated with Units 4 & 5 have been replaced with eight advanced CTs burning natural gas and 8 HRSGs to produce two 4-on-1 combined cycle units. Combined Cycle Units 4 and 5 have commenced operation.

Facility Contact

1.	Name and Title of Facility Contact:			4
	Mr. Randy Hopkins, Environmental Spec	ialist		
2.	Facility Contact Mailing Address:			
	Organization/Firm: FPL Sanford Plant			
	Street Address: 950 South Highway	17-92		
	City: DeBary	State:	FL	Zip Code: 32713
3.	Facility Contact Telephone Numbers:			
	Telephone: (386) 575-5385		Fax: (386)	575-5233

Facility Regulatory Classifications

Check all that apply:

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 CTs 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.

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Er	missions Cap	4. Basis for Emissions	5. Pollutant Comment
Emitted	Classil.	lb/hour	tons/year	Cap	Comment
			•	•	

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1.	. Area Map Showing Facility Location: [] Attached, Document ID: [X	(1)	Not Applicable	ſ	1	Waiver Requested
		. ,				
2.	. Facility Plot Plan: [] Attached, Document ID:[X	(]]	Not Applicable	[]	Waiver Requested
	n					
3.	Process Flow Diagram(s): Attached, Document ID: [>	(]]	Not Applicable	[]	Waiver Requested
4.	. Precautions to Prevent Emissions of Unconfir	ned	Particulate Mat	ter:		
]	Waiver Requested
5.	. Fugitive Emissions Identification:		-			
	[] Attached, Document ID:[>	(]	Not Applicable	[]	Waiver Requested
6.	. Supplemental Information for Construction P					
	[X] Attached, Document ID: Part II	[] Not Applica	ble		
7.	. Supplemental Requirements Comment:					
7.	. Supplemental Requirements Comment:					
7.	. Supplemental Requirements Comment:					
7.	. Supplemental Requirements Comment:					
7.	. Supplemental Requirements Comment:					
7.	. Supplemental Requirements Comment:				,	
7.	. Supplemental Requirements Comment:					·
7.	. Supplemental Requirements Comment:					
7.	. Supplemental Requirements Comment:					
7.	. Supplemental Requirements Comment:					
7.	. Supplemental Requirements Comment:					
7.	. Supplemental Requirements Comment:					
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:
[] 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	2	Combustion Turbines 4A thru 4	D
Emissions only into mation section	•	O1	_	Compastion rangings 44 ting 4	_

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 Emission	s Unit Addressed in This	s Section: (Check one)				
[] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).						
[x	X] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.						
[[] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.						
2.	Regulated or Unr	egulated Emissions Unit	? (Check one)				
[x	The emissions unit.	unit addressed in this Em	issions Unit Information Sec	ction is a regulated			
[] The emissions we emissions unit.	unit addressed in this Em	issions Unit Information Sec	ction is an unregulated			
3.	-	nissions Unit Addressed ines 4A through 4D.	in This Section (limit to 60 o	characters):			
4.	Emissions Unit Io ID: 004-007	dentification Number:	[] No ID] ID Unknown			
5.	Emissions Unit Status Code:	6. Initial Startup Date: MAR 2003	7. Emissions Unit Major Group SIC Code: 49	8. Acid Rain Unit? [X]			
9.	Emissions Unit C	Comment: (Limit to 500 C	Characters)				
	natural gas in pea		ic (GE) Frame 7FA Advanced operated in only combined cy same for each CT.				

Er	nissions Unit Information Section1		of _	2	Comb	oustion Turbines 4A thru 4D
<u>Er</u>	nissions Unit Control Equipment					
	Control Equipment/Method Description (Limit	to 20	0 chara	acters	per device or method):
	Dry Low NO _x Combustors					
	•					
2.	Control Device or Method Code(s): 025	 5				
E	nissions Unit Details					
1.	Package Unit:					
	Manufacturer: General Electric		Mo	del Nu	mber:	7FA
2.	Generator Nameplate Rating:	182	MV	V		
3.	Incinerator Information:					
	Dwell Temperature:					°F
	Dwell Time:					seconds
	Incinerator Afterburner Temperature:					°F

Emissions Unit Information Section	1	of	2	Combustion Turbines 4A thru 4D
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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 Throughp	ut Rate:		
4.	Maximum Production Rate:			_
5.	Requested Maximum Operating	Schedule:		
		hours/day		days/week
		weeks/year	400	hours/year
6.	Operating Capacity/Schedule Co	omment (limit to 200 ch	aracters):	
	Maximum heat input for peak firi degrees Fahrenheit (°F), 20% rela Value (HHV). Generator namepla	ative humidity, and 14.7	psia. Heat inp	ut as High Heating

Emissions Unit Information S	Section	1 of _	2 Con	nbustion Turbines 4A thru 4D
	EMISSIONS Regulated E			NS
List of Applicable Regulation	<u>s</u>			
Applicable regulations do no	ot change as a	a result of th	iis construc	tion permit application.
•				

Emissions Unit Information Section	1	of 2	Combustion Turbines 4A thru 4D
Emissions only injustion section	•	01 ~	Compastion Tarbines 44 thra 45

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

Emission Point Description and Type

Identification of Point on Pl 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 HRSG stack.							
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:							
5. Discharge Type Code:	6. Stack Heig	ht: 125 feet	7. Exit Diameter: 19	feet			
8. Exit Temperature: 220 °F	9. Actual Vol Rate:	umetric Flow 6,915 acfm	10. Water Vapor: 8.6	%			
11. Maximum Dry Standard Flo 738,680	ow Rate:		nission Point Height:	eet			
13. Emission Point UTM Coord	linates:						
Zone: 17 E	ast (km): 468.3	North	h (km): 3190.3				
14. Emission Point Comment (limit to 200 char	acters):					
Stack conditions for combined cycle operation, peak firing, and turbine inlet of 59°F. Stack conditions vary based on turbine inlet temperature. All CTs equipped with inlet foggers. See Part II.							

Emissions Unit Information Section	1	οf	2	Combustion Turbines 4A thru 4	C
Emissions Unit Information Section		OI OI	~	Compasion raibines 4A and 4	_

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

Se	Segment Description and Rate: Segment 1 of 1						
1.	Segment Description (Prod	cess/Fuel Type)	(limit to 500 ch	aract	ers):		
	Natural Gas						
2.	Source Classification Code 2-01-002-01	e (SCC):	3. SCC Units		eet		
4.	Maximum Hourly Rate: 1.92	5. Maximum 7. 718	Annual Rate:	1	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			on Btu	u/SCC as HHV.		
Se	gment Description and Ra	te: Segment_	of				
1.	Segment Description (Prod	cess/Fuel Type)	(limit to 500 ch	aract	ers):		
2.	Source Classification Code	e (SCC):	3. SCC Unit	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):						
					•		

Emissions Unit Information Section	1	of	2	Combustion Turbines 4A thru 4D
Emissions only intol manon section	•	UI.	_	

F. EMISSIONS UNIT POLLUTANTS (All Emissions Units)

1. Pollutant Emitted	2. 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
· .			
			-
<u> </u>			

Emissions Unit Information Section	1	_ of _	2	Combustion Turbines 4A thru 4D
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

10	tential/Fugitive Emissions						
1.	Pollutant Emitted:	2.	Tota	l Percent Ef	ficie	ncy 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	ton	ıs/year	
6.	Emission Factor: 9 lb/hr		•			7. Emissions	
	Reference: GE, 2000					Method Code: 2	
8.	Calculation of Emissions (limit to 600 chara	cters):			<u> </u>	
	0 0 4 11						
	See Part II.						
9.	Pollutant Potential/Fugitive Emissions Com-	ment	(lim	it to 200 ch	aract	ers):	
	Detential emissions for any (4) OT and any late	c: !		1			
	Potential emissions for one (1) CT and peak	riring	mod	ie.			
Al	lowable Emissions Allowable Emissions	1	of_	1_			
1.	Basis for Allowable Emissions Code:	2.	Futi	ure Effective	Dar	te of Allowable	
	OTHER		Em	issions:		•	
3.	Requested Allowable Emissions and Units:	4.	Equ	iivalent Allo	wab	le Emissions:	
	10% Opacity			9 lb/hou	r	1.8 tons/year	
5.	Method of Compliance (limit to 60 characte	rs):					
	EPA Method 9						
6.	Allowable Emissions Comment (Desc. of O	perat	ing N	Method) (lin	iit to	200 characters):	
	Peak firing mode with natural gas. Equivaler	nt allo	wab	le emissions	s for	one (1) CT.	
l							

Emissions Unit Information Section	1	_ of _	2	Combustion Turbines 4A thru 4D
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)

ru	tential/rugitive Emissions						
1.	Pollutant Emitted:	2.	Γotal	Percent Eff	icienc	y 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:						
	[] 1 [] 2 [] 3	_		to	tons/		
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 chara	cters)):				
See Part II.							
9.	Pollutant Potential/Fugitive Emissions Com-	ment	(lim	it to 200 cha	racter	s):	
	Potential emissions for one (1) CT and peak firing mode.						
	Totellial chilosions for one (1) of and peak	iii iiig	IIIOu	G.			
All	lowable Emissions Allowable Emissions	1	of_	1			
1.	Basis for Allowable Emissions Code:	2.	Futı	re Effective	Date	of Allowable	
	OTHER		Emi	ssions:			
3.	Requested Allowable Emissions and Units:	4.	Equ	ivalent Allov	wable	Emissions:	
				5.1 lb/hour		1.02 tons/year	
5.	Method of Compliance (limit to 60 character	rs):					
	Fuel Sampling; Vendor Sampling Pipeline Quality Natural Gas						
6.	Allowable Emissions Comment (Desc. of O	perati	ng N	/lethod) (lim	it to 2	00 characters):	
	Equivalent allowable emissions for one (1) C sulfur content. Peak firing mode with natura			ble based on	typica	al maximum fuel	

Emissions Unit Information Section	1	of	2	Combustion Turbines 4A thru 4D
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)

Potential/Fugitive Emissions

10	tential/Pugitive Emissions					
1.	Pollutant Emitted:	2. 7	Total Per	rcent Effici	ency	of Control:
	NO _x					
3.	Potential Emissions:				4.	Synthetically
	101.2 lb/hour	20.2	24 to	ns/year		Limited? [X]
5.	Range of Estimated Fugitive Emissions:					_
	[] 1 [] 2 [] 3		to) to	ns/y	ear
6.	Emission Factor: 15 ppmvd @ 15% O ₂				7.	Emissions
	Reference: GE, 2000					Method Code: 2
8.	Calculation of Emissions (limit to 600 chara	cters)	:			
	See Part II					
9.	9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Potential emissions for one (1) CT and peak firing mode.					
Al	lowable Emissions Allowable Emissions	1	of 1 _			
1.	Basis for Allowable Emissions Code: OTHER	2.	Future I Emissic		ate c	of Allowable
3.	Requested Allowable Emissions and Units:	4.	Equival	ent Allowa	ble I	Emissions:
	15 ppmvd @ 15% O₂		10	1.2 lb/hour	•	20.24 tons/year
5.	Method of Compliance (limit to 60 characte	rs):				
	CEM - Part 75					
6.	Allowable Emissions Comment (Desc. of O	perati	ng Meth	od) (limit t	o 20	00 characters):
	Allowable emissions are a 3-hour block average. CEM is installed in HRSG stack. Equivalent allowable emissions for one (1) CT. Peak firing mode with natural gas.					

Emissions Unit Information Section	1	_ of _	2	Combustion Turbines 4A thru 4E
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 Contr	rol:				
со						
3. Potential Emissions:	4. Synthet	ically				
28.9 lb/hour	5.78 tons/year Limited	-				
5. Range of Estimated Fugitive Emissions:						
	totons/year	_				
6. Emission Factor: 9 ppmvd	7. Emissic					
Reference: GE, 2000	2	Code.				
8. Calculation of Emissions (limit to 600 char	racters):					
See Part II.						
9. Pollutant Potential/Fugitive Emissions Con	nment (limit to 200 characters):					
Potential emissions for one (1) CT and peak	; firing mode.					
Allowable Emissions Allowable Emissions	1 of1					
Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowa Emissions:	ible				
3. Requested Allowable Emissions and Units:	: 4. Equivalent Allowable Emission	s:				
9 ppmvd	28.9 lb/hour 5.78 tons	/year				
5. Method of Compliance (limit to 60 character	ers):					
EPA Method 10; Annual Test						
6. Allowable Emissions Comment (Desc. of Comment	Operating Method) (limit to 200 charac	ters):				
,		•				
Peak firing mode with natural gas. Equivale	ent allowable emissions for one (1) CT.					

Emissions Unit Information Section	1	of	2	Combustion Turbines 4A thru 4D
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

10	Totelliab Fugitive Emissions					
1.	Pollutant Emitted:	2. 7	otal P	ercent	Efficie	ency of Control:
	voc					
3.	Potential Emissions:					4. Synthetically
	2.81 lb/hour	0.5	6 to	ons/ye	ar	Limited? [X]
5.	Range of Estimated Fugitive Emissions:					
	[] 1 [] 2 [] 3	_		to	to	ns/year
6.	Emission Factor: 1.4 ppmvw					7. Emissions
	Reference: GE, 2000					Method Code:
8.	Calculation of Emissions (limit to 600 chara	cters)	:		_	
	See Part II.					
	·					
9.	Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):					
	Potential emissions for on (1) CT and peak firing mode.					
	·					
Al	Allowable Emissions 1 of 1					
1.	Basis for Allowable Emissions Code:	2.	Future	Effec	tive Da	ate of Allowable
	OTHER		Emiss	ons:		
3.	Requested Allowable Emissions and Units:	4.	Equiva	alent A	Allowal	ble Emissions:
	1.4 ppmvw		2.8	1 lb/l	nour	0.56 tons/year
5.	Method of Compliance (limit to 60 character	rs):				
	EDA Marka data and CA de Marka Companyillanda a Tanaka a ka					
	EPA Method 18 or 25A; Initial Compliance Te	st oni	y 			
6.	Allowable Emissions Comment (Desc. of O	perati	ng Me	thod)	(limit t	o 200 characters):
	Equivalent allowable emissions for one (1) C	T. Pe	ak firin	a mod	le with	natural gas.
	,					•
I						

Emissions Unit Information Section	1 of 2 Combustion Turbines 4A thru 4D
	SSIONS INFORMATION S Units Subject to a VE Limitation)
Visible Emissions Limitation: Visible Emi	ssions Limitation 1 of 2
Visible Emissions Subtype: VE10	2. Basis for Allowable Opacity: [] Rule [X] Other
Requested Allowable Opacity: Normal Conditions: Maximum Period of Excess Opacity Allowable	Exceptional Conditions: % owed: min/hour
4. Method of Compliance:	
Annual VE Test - EPA Method 9.	
5. Visible Emissions Comment (limit to 20)	0 characters):
Peak Firing Mode with Natural Gas	
	MONITOR INFORMATION nits Subject to Continuous Monitoring)
Continuous Monitoring System: Continuo	ous Monitor 1 of 1
1. Parameter Code: EM	2. Pollutant(s): NO _x
3. CMS Requirement:	[X] Rule [] Other
4. Monitor Information: Manufacturer: To be provided with initial Model Number:	I Title V application. Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 2	200 characters):
CEMs meet 40 CFR Part 75.	

nissions Unit Information Section1	'	of _	2	Comb	ustion 1	Turbines 4A thru 4I	
						ion)	
<u>Visible Emissions Limitation:</u> Visible Emissions Limitation 2 of 2							
Visible Emissions Subtype: VE99	2.				ble Opa	city:] Other	
Normal Conditions:	-	iona	l Cond	itions:	10 60	0 % min/hour	
Method of Compliance:			-				
None							
Visible Emissions Comment (limit to 200 c	harac	eters):				
I. CONTINUOUS MONITOR INFORMATION (Only Regulated Emissions Units Subject to Continuous Monitoring) Continuous Monitoring System: Continuous Monitor of							
Parameter Code:	2.	Pol	lutant(s):			
CMS Requirement:	[] R	ule		[]	Other	
Monitor Information: Manufacturer: Model Number:			Serial	Numbe	er:		
Installation Date:	6.	Per	formar	ice Spe	cificatio	on Test Date:	
Continuous Monitor Comment (limit to 200) cha	racte	ers):				
	H. VISIBLE EMISS (Only Regulated Emissions U sible Emissions Limitation: Visible Emissions Visible Emissions Subtype: VE99 Requested Allowable Opacity: Normal Conditions: % Ex. Maximum Period of Excess Opacity Allowed Method of Compliance: None Visible Emissions Comment (limit to 200 c FDEP Rule 62-210.700(1). Allowed for 2 hourshutdown, and malfunction. (Note: Alloward Title V permit.) I. CONTINUOUS MO (Only Regulated Emissions Units Continuous Monitoring System: Continuous Parameter Code: CMS Requirement: Monitor Information: Manufacturer: Model Number: Installation Date:	H. VISIBLE EMISSION (Only Regulated Emissions Units sible Emissions Limitation: Visible Emissions I Visible Emissions Subtype: VE99 Requested Allowable Opacity: Normal Conditions: Maximum Period of Excess Opacity Allowed: Method of Compliance: None Visible Emissions Comment (limit to 200 character) FDEP Rule 62-210.700(1). Allowed for 2 hours (12 shutdown, and malfunction. (Note: Allowance for Title V permit.) I. CONTINUOUS MONITY (Only Regulated Emissions Units Substitutions Monitoring System: Continuous Monitoring System: [Monitor Information: Manufacturer: Model Number: Installation Date: 6.	H. VISIBLE EMISSIONS IN (Only Regulated Emissions Units Subjection of Parameter Code: I. CONTINUOUS MONITOR (Only Regulated Emissions Units Subject Ontinuous Monitor Information: Manufacturer: Model Number: Installation Date: 6. Per	H. VISIBLE EMISSIONS INFORM (Only Regulated Emissions Units Subject to sible Emissions Limitation: Visible Emissions Subtype: VE99 Requested Allowable Opacity: Normal Conditions: Maximum Period of Excess Opacity Allowed: Method of Compliance: None Visible Emissions Comment (limit to 200 characters): FDEP Rule 62-210.700(1). Allowed for 2 hours (120 minutes) shutdown, and malfunction. (Note: Allowance for cold start Title V permit.) I. CONTINUOUS MONITOR INFO (Only Regulated Emissions Units Subject to Continuous Monitor Parameter Code: CMS Requirement: [] Rule Monitor Information: Manufacturer: Model Number: Serial	H. VISIBLE EMISSIONS INFORMATION (Only Regulated Emissions Units Subject to a VE Insible Emissions Limitation: Visible Emissions Limitation: Visible Emissions Subtype: Visible Emissions Subtype: Visible Emissions Subtype: Vesquested Allowable Opacity: Normal Conditions: Maximum Period of Excess Opacity Allowed: Method of Compliance: None Visible Emissions Comment (limit to 200 characters): FDEP Rule 62-210.700(1). Allowed for 2 hours (120 minutes) per 24 shutdown, and malfunction. (Note: Allowance for cold startup and Title V permit.) I. CONTINUOUS MONITOR INFORMAT (Only Regulated Emissions Units Subject to Continuous Monitor of Parameter Code: CMS Requirement: [] Rule Monitor Information: Manufacturer: Model Number: Installation Date: 6. Performance Special Number:	H. VISIBLE EMISSIONS INFORMATION (Only Regulated Emissions Units Subject to a VE Limitation sible Emissions Limitation: Visible Emissions Limitation 2 of 2 Visible Emissions Subtype: 2. Basis for Allowable Opac [x] Rule [x] Rule [x] Rule [x] Rule [x] Rule [x] Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: 10 Maximum Period of Excess Opacity Allowed: 60 Method of Compliance: None Visible Emissions Comment (limit to 200 characters): FDEP Rule 62-210.700(1). Allowed for 2 hours (120 minutes) per 24 hours f shutdown, and malfunction. (Note: Allowance for cold startup and shutdo Title V permit.) I. CONTINUOUS MONITOR INFORMATION (Only Regulated Emissions Units Subject to Continuous Monotinuous Monitoring System: Continuous Monitor of Parameter Code: 2. Pollutant(s): CMS Requirement: [] Rule [] G Monitor Information:	

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

Emissions Unit Information Section 1 of 2 Combustion Turbines 4A thr	1 of 2 Combustion Turbines 4A thru 4D
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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
1	
	[] Attached, Document ID: [X] Not Applicable [] Waiver Requested
8.	[] Attached, Document ID: [X] Not Applicable [] Waiver Requested
8.	[] Attached, Document ID: [X] Not Applicable [] Waiver Requested Supplemental Information for Construction Permit Application [X] Attached, Document ID: Part II [] Not Applicable
	Supplemental Information for Construction Permit Application [X] Attached, Document ID: Part II [] Not Applicable
	Supplemental Information for Construction Permit Application [X] Attached, Document ID: Part II [] Not Applicable Other Information Required by Rule or Statute
	Supplemental Information for Construction Permit Application [X] Attached, Document ID: Part II [] Not Applicable
9.	Supplemental Information for Construction Permit Application [X] Attached, Document ID: Part II [] Not Applicable Other Information Required by Rule or Statute
9.	Supplemental Information for Construction Permit Application [X] Attached, Document ID: Part II [] Not Applicable Other Information Required by Rule or Statute [] Attached, Document ID: [X] Not Applicable
9.	Supplemental Information for Construction Permit Application [X] Attached, Document ID: Part II [] Not Applicable Other Information Required by Rule or Statute [] Attached, Document ID: [X] Not Applicable
9.	Supplemental Information for Construction Permit Application [X] Attached, Document ID: Part II [] Not Applicable Other Information Required by Rule or Statute [] Attached, Document ID: [X] Not Applicable
9.	Supplemental Information for Construction Permit Application [X] Attached, Document ID: Part II [] Not Applicable Other Information Required by Rule or Statute [] Attached, Document ID: [X] Not Applicable

Emissions Unit Information Section	1	of 2	Combustion Turbines 4A thru 4D
Cirissions Chit Intol Mation Section	-	- UI -	

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

Emissions Unit Information Section	2	of 2	Combustion Turbines 5A thru 5D

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

Type of Emissions Unit Addressed in This Section: (Check one)							
process or production unit, or activity, v] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).						
X] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.							
	This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.						
2. Regulated or Unregulated Emissions Unit	t? (Check one)						
[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.							
The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.							
 Description of Emissions Unit Addressed in This Section (limit to 60 characters): Combustion Turbines 5A through 5D. 							
4. Emissions Unit Identification Number:	[] No ID						
ID: 009-012	[] ID Unknown						
5. Emissions Unit Status Code: Date: A FEB 2002	7. Emissions Unit Major 8. Acid Rain Unit? Group SIC Code: [X]						
	<u> </u>						
9. Emissions Unit Comment: (Limit to 500	Characters)						
The emission units are four General Electric (GE) Frame 7FA Advanced CTs. Unit 5 will use natural gas in peak firing mode. It can be operated in only combined cycle mode. Nameplate ratings, heat input, emissions, etc., are the same for each CT.							

Emissions Unit Information Section	2	of	2 Comb	ustion Turbines 5A thru 5D
Emissions Unit Control Equipment				
1. Control Equipment/Method Description	(Limit	to 200	characters p	per device or method):
Dry Low NO _x Combustors				
2. Control Device or Method Code(s): 02	5			
Emissions Unit Details				
1. Package Unit:		M-4	1 Ni1	754
Manufacturer: General Electric 2. Generator Nameplate Rating:	182	Mode	el Number:	/ra
3. Incinerator Information:	- 102			
Dwell Temperature:				°F
Dwell Time:				seconds
Incinerator Afterburner Temperature:				°F

Emissions Unit Information Section	2	of	2	Combustion Turbines 5A thru 5D
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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 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 cl	naracters):	
	Maximum heat input for peak fir degrees Fahrenheit (°F), 20% rel Value (HHV). Generator namepl	lative humidity, and 14.7	psia. Heat inp	ut as High Heating

Emissions Unit Information Section	2	_ of _	2	Combustion Turbines 5A thru 5D
C. EMISSI (Regula	ONS UNI			

List of Applicable Regulations

Applicable regulations do not change as a result of this construction permit application.						

Emissions Unit Information Section 2 of 2 Combustion Turbines 5A thru 5D

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

Emission Point Description and Type

1.	Identification of Point on Pl Flow Diagram?	ot Plan or	2. Emission Po	int Type Code:			
3.	Descriptions of Emission Po 100 characters per point):	oints Comprising	g this Emissions (Unit for VE Tracking (limit to			
	Unit can exhaust through Hi	RSG stack.					
		· .					
4.	ID Numbers or Descriptions	s of Emission U	nits with this Emi	ssion Point in Common:			
5.	Discharge Type Code: V	6. Stack Heig	ght: 125 feet	7. Exit Diameter: 19 feet			
8.	Exit Temperature:	9. Actual Vol	lumetric Flow	10. Water Vapor:			
	220 °F	Rate: 1,030	6,915 acfm	8.6 %			
11.	Maximum Dry Standard Flo 738,680		12. Nonstack Er	nission Point Height: feet			
13.	Emission Point UTM Coord	linates:					
	Zone: 17 E	ast (km): 468.3	Norti	h (km): 3190.3			
14.	Emission Point Comment (limit to 200 char	racters):				
Stack conditions for combined cycle operation, peak firing, and turbine inlet of 59°F. Stack conditions vary based on turbine inlet temperature. All CTs equipped with inlet foggers. See Part II.							

Emissions Unit Information Section	2	of	2	Combustion Turbines 5A thru 5D
Emissions only intolliation occiton	_	UI	_	

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

<u>5e</u>	Segment Description and Rate: Segment 1 of 1						
1.	Segment Description (Prod	cess/Fuel Type) (limit to 500 ch	arac	ters):		
	Natural Gas						
2.	Source Classification Code	e (SCC):	3. SCC Units				
	2-01-002-01		Million Cu		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	to 200 characters)):	•			
	Maximum Hourly Rate = 1,9	918 (rounded to 1.	81)				
	Annual based on 59°F turb			n Bt	u/SCC as HHV.		
Se	gment Description and Ra	ite: Segment	of				
1.	Segment Description (Prod	cess/Fuel Type) (limit to 500 ch	arac	ters):		
2.	Source Classification Code	e (SCC):	3. SCC Uni	ts:			
4.	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 Un						
10.	Segment Comment (limit	to 200 characters)):				
				٠			

Emissions Unit Information Section	2	of	2	Combustion Turbines 5A thru 5D
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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

Emissions Unit Information Section	2	_ of _	2	Combustion Turbines 5A thru 5D
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)

Po	tential/Fugitive Emissions					
1.	Pollutant Emitted:	2. Tota	al Percent Effic	iency 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 t	ons/year		
6.	Emission Factor: 9 lb/hr			7. Emissions		
	Reference: GE, 2000	•		Method Code:		
8.	Calculation of Emissions (limit to 600 chara	cters):		_		
	See Part II.					
	·					
9.	Pollutant Potential/Fugitive Emissions Com	ment (lir	nit to 200 chara			
	Potential emissions for one (1) CT and peak f	firing mo	de.			
			•			
Al	lowable Emissions Allowable Emissions	1 of_				
1.	Basis for Allowable Emissions Code: OTHER		ture Effective Daissions:	Date of Allowable		
3.	Requested Allowable Emissions and Units:	- 		able Emissions:		
	10% Opacity		9 lb/hour	1.8 tons/year		
5.	Method of Compliance (limit to 60 character	rs):				
	EPA Method 9					
6.	Allowable Emissions Comment (Desc. of O	perating	Method) (limit	to 200 characters):		
	_			(4) 0=		
	Peak firing mode with natural gas. Equivalen	nt allowa	ble emissions fo	or one (1) CT.		

Emissions Unit Information Section	2	_ of _	2	Combustion Turbines 5A thru 5D
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. Total Percent Efficiency 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 tons/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 chara	acters):				
See Part II.					
9. Pollutant Potential/Fugitive Emissions Com	ment (limit to 200 characters):				
Potential emissions for one (1) CT and peak	firing mode.				
Allowable Emissions Allowable Emissions	<u>1</u> of <u>1</u>				
1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable				
OTHER	Emissions:				
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable 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 Natural Gas				
- as camping, tonder camping ripenite at					
6. Allowable Emissions Comment (Desc. of C	perating Method) (limit to 200 characters):				
Equivalent allowable emissions for one (1) C sulfur content. Peak firing mode with natura	T. Allowable based on typical maximum fuel				
_	-				

Emissions Unit Information Section	2	_ of _	2	Combustion Turbines 5A thru 5D
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)

Potential/Fugitive Emissions

10	tential/Fugitive Emissions					
1.	Pollutant Emitted:	2.	Total Percent Effi	ciency	of Control:	
	NO _x					
3.	Potential Emissions:	_		4.	Synthetically	
	101.2 lb/hour	20.	24 tons/year		Limited? [X]	
5.	Range of Estimated Fugitive Emissions:					
	[] 1 [] 2 [] 3		to	tons/y	_	
6.	Emission Factor: 15 ppmvd @ 15% O ₂			7.		
	Reference: GE, 2000				Method Code: 2	
8.	Calculation of Emissions (limit to 600 chara	acters)):			
	See Part II					
	Josef art II					
9.	Pollutant Potential/Fugitive Emissions Com	ment	(limit to 200 char	acters):	
	Potential emissions for one (1) CT and peak firing mode.					
	rotential emissions for one (1) C1 and peak	ming	mode.			
⊢ Al	Allowable Emissions 1 of 1					
				D-4-	C A 111.1 -	
1.	Basis for Allowable Emissions Code: OTHER	2.	Future Effective Emissions:	Date c	of Allowable	
3.	Requested Allowable Emissions and Units:	4.	Equivalent Allov	vable l	Emissions:	
	15 ppmvd @ 15% O₂		101.2 lb/ho	ur	20.24 tons/year	
5.	Method of Compliance (limit to 60 characte	rs):				
	CEM - Part 75					
6.	Allowable Emissions Comment (Desc. of O	perati	ng Method) (limi	t to 20	00 characters):	
	Allowable emissions are a 3-hour block averallowable emissions for one (1) CT. Peak firi				G stack. Equivalent	

Pollutant Detail I	MISSIONS UNIT POLLU (Regulated Ensions-Limited and Precons) Emissions	of 5 TANT DETAIL missions Units - truction Review	. INFORMA v Pollutants	,
CO			iii Dilioiono	, 52 50111311
3. Potential Emis	sions: 28.9 lb/hour nated Fugitive Emissions:	5.78 tons/	year 4.	Synthetically Limited? [X]
[] 1	[] 2 [] 3	to _	tons/y	year
6. Emission Factor Reference	e: GE, 2000		7.	Emissions Method Code: 2
8. Calculation of See Part II.	Emissions (limit to 600 chara	icters):		
	itial/Fugitive Emissions Com	`	00 characters	s):
Allowable Emissi	ons Allowable Emissions	1 of 1		
1. Basis for Allow OTHER	vable Emissions Code:	2. Future Eff Emissions		of Allowable
3. Requested Alle	wable Emissions and Units:	4. Equivalent	t Allowable	Emissions:
9 ppmvd		28.9 ll	o/hour \$	5.78 tons/year

1. Basis for Allowable Emissions Code: OTHER 2. Future Effective Date of Allowable Emissions: Emissions: 3. Requested Allowable Emissions and Units: 9 ppmvd 28.9 lb/hour 5.78 tons/year 5. Method of Compliance (limit to 60 characters): EPA Method 10; Annual Test 6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Peak firing mode with natural gas. Equivalent allowable emissions for one (1) CT.

Emissions Unit Information Section	2	of	2_	Combustion Turbines 5A thru 5D
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

Totolitian Lagitivo Dimissions						
1. Pollutant Emitted:		2. To	tal Per	cent Ef	ficien	cy of Control:
voc						
3. Potential Emissions:	•					4. Synthetically
2.81 lb/hour		0.56	tor	ns/year		Limited? [X]
5. Range of Estimated Fugitive Emiss						
] 3		to			s/year
6. Emission Factor: 1.4 ppmvw						7. Emissions Method Code:
Reference: GE, 2000						2
8. Calculation of Emissions (limit to	600 chara	cters):			-	
See Part II.						
					-	
9. Pollutant Potential/Fugitive Emissi	ions Com	ment (li	mit to	200 cha	aracte	ers):
Potential emissions for on (1) CT ar	nd peak fir	ring mo	de.			
Allowable Emissions Allowable Emi	ssions	1 of	1	_		
Basis for Allowable Emissions Coo OTHER	de:	1	iture I nissio		e Date	e of Allowable
3. Requested Allowable Emissions ar	nd Units:	4. E	quival	ent Allo	wable	e Emissions:
1.4 ppmvw			2.81	lb/hou	r	0.56 tons/year
5. Method of Compliance (limit to 60) character	rs):				
EPA Method 18 or 25A; Initial Comp	oliance Tes	st only				
6. Allowable Emissions Comment (D	esc. of Op	perating	Meth	od) (lin	nit to	200 characters):
Equivalent allowable emissions for	one (1) C	T. Peak	firing	mode w	ith na	atural gas.

Emissions Unit Information Section	2	of	2	Combustion Turbines 5A thru 5D

H. VISIBLE EMISSIONS INFORMATION (Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of

1.	Visible Emissions Subtype: VE10	2′.	Basi	s for Allo	wable O	•	•
3.	Requested Allowable Opacity:	•	l .	Rule Conditio	ns:	<u>[^ .</u>	Other % min/hour
4.	Method of Compliance:						
	Annual VE Test - EPA Method 9.						
5.	Visible Emissions Comment (limit to 200 c	hara	cters)):			
	Peak Firing Mode with Natural Gas						
<u>Co</u>	I. CONTINUOUS MO (Only Regulated Emissions Units ontinuous Monitoring System: Continuous	Sub	ject	to Contin	uous M		oring)
1.	Parameter Code: EM	2.	Poll	utant(s):	NO _x		
3.	CMS Requirement:	[X] R	ıle	[] 0	ther
4.	5B= 42CLS-77997-387 01 5C= 42CLS-77998-387 01	4200 4200 4200	Instr 2/183 2/183 2/183 2/183	1 2 3) ₂ = Serv	ome	X
5.	Installation Date: 1 JAN 2002 (5A) through 30 APR 2002 (5D) (Original NO _x replaced in 2002)	6.	21 A	PR 2003 (5A); 22 A	APR :	Test Date: 2003 (5B); Y 2003 (5D)
7.	Continuous Monitor Comment (limit to 200 CEMs meet 40 CFR Part 75.) cha					

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En	nissions Unit Information Section 2		of Combustion Turbines 5A thru 5D
	H. VISIBLE EMISSI (Only Regulated Emissions University)		
<u>Vi</u>	sible Emissions Limitation: Visible Emission	ons	Limitation 2 of 2
1.	Visible Emissions Subtype: VE99	2.	Basis for Allowable Opacity: [X] Rule [] Other
3.	Requested Allowable Opacity: Normal Conditions: % Ex Maximum Period of Excess Opacity Allower	-	otional Conditions: 100 % 60 min/hour
4.	Method of Compliance:		
	None		
5.	Visible Emissions Comment (limit to 200 cl	nara	acters):
	FDEP Rule 62-210.700(1). Allowed for 2 hour shutdown, and malfunction. (Note: Allowan permit.)		
Co	I. CONTINUOUS MO (Only Regulated Emissions Units ontinuous Monitoring System: Continuous	Sul	bject to Continuous Monitoring)
	Parameter Code:		
1.	Parameter Code:	2.	Pollutant(s):
3.	CMS Requirement:	[] Rule [] Other
	Monitor Information: Manufacturer: Model Number:		Serial Number:
5.	Installation Date:	6.	Performance Specification Test Date:

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

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

Emissions Unit Information Section	2	of	2	Combustion Turbines 5A thru 5

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
0.	[X] Attached, Document ID: Part II [] Not Applicable
9.	Other Information Required by Rule or Statute
	[] Attached, Document ID: [X] Not Applicable
	[] Total total B [N] Not replicable
10	. Supplemental Requirements Comment:

Emissions Unit Information Section	2	of 2	Combustion Turbines 5A thru 5D
CHIISSIUMS CHIL IIIIUI MALKUI ACCLIUM	_	(), -	

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
SANFORD UNITS 4A THROUGH 4D AND UNITS 5A THROUGH 5D
PEAK FIRING MODE

APPLICATION FOR AIR CONSTRUCTION PERMIT SANFORD UNITS 4A THROUGH 4D AND UNITS 5A THROUGH 5D PEAK FIRING MODE

Introduction

The Florida Power & Light Company (FPL) Sanford Plant is located on approximately 1,700 acres on the St. Johns River about three (3) miles northwest of Sanford, Florida. The site is located within the City of DeBary, Volusia County, Florida. In September 1999, an Air Construction Permit and Prevention of Significant Deterioration (PSD) approval was issued for the installation of eight 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 (FDEP) File No. 1270009-004-AC]. The CTs are designated as Units 4A through 4D associated with the repowering of the existing Unit 4 steam turbine/generator and Units 5A through 5D associated with the repowering of the existing Unit steam turbine/generator. The combustion turbines are General Electric (GE) Frame 7FA (Model PG7241) that are authorized to fire natural gas with distillate oil authorized as backup for Units 5A through 5D. 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 carbons (VOCs) for Peak Firing Mode and baseload operation. Emissions are presented for each CT and the eight CTs associated with Units 4A through 4D and Units 5A through 5D. 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 combustion turbines. 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 eight CTs.

The Sanford Plant has creditable emission decreases over the last several years resulting from shutting down the existing residual oil and natural gas-fired steam-generating units (i.e., steam generators for Units 4 and 5). The steam generators for Units 4 and 5 were retired in 2002 and 2001, respectively. The emission reductions from these retirements are contemporaneous with the proposed Peak Firing Mode. Peak Firing is scheduled to be completed by June 2004, which is well within the 5-year contemporaneous period for the creditable reductions from the Units 4 and 5 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 Sanford Plant, Units 4A Through 4D and 5A Through 5D

		Peak Firing at 59 °F		Base Load at 59 °F			
Pollutant		per CT	8 CTs	per CT	8 CTs	Difference	SER ^b
PM/PM ₁₀	lb/hr	9	72	9	72		
	TPY ^a	1.8	14.4	1.8	14.4	0	15/25
SO ₂	lb/hr	5.1	40.8	4.9	39.2		
	TPY ^a	1.02	8.16	0.98	7.84	0.32	40
NO _x	lb/hr	101.2	809.6	58.7	469.6		
	TPY^a	20.24	161.92	11.74	93.92	68	40
CO	lb/hr	28.9	231.2	28.8	230.4		
	TPY ^a	5.78	46.24	5.76	46.08	0.16	100
VOC	lb/hr	2.81	22.48	2.79	22.32		
	TPY^a	0.562	4.496	0.558	4.464	0.032	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 FPL Sanford Plant

Pollutant	Actual Emissions	Repowering Project ^a	Peak Operation	Net Emission Change	SER ^b	PSD Review Applicable?
NO _x	9,984.0	2,738.0	68.0	-7,178.0	40	No Net Emission Increase

^a FDEP File No. 0710002-004-AC; PSD-FL-270; Sanford Repowering Project.

^b SER = significant emission rate 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 1,0	000,000 Btu/MMBtu	(Fuel Heat Conte	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 1,54	15 x (Temp. (°F)+ 46	0°F)] / [Molecula	r weight x 2116.8] /	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) / [((diame	ter)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			55.8	

Note: Universal gas constant = 1,545 ft-lb(force)/ $^{\circ}$ R; atmospheric pressure = 2,116.8 lb(force)/ft²; 14.7 lb/ft³ Turbine inlet relative humidity is 20% at 35 $^{\circ}$ F, 60% at 59 and 75 $^{\circ}$ F, and 50% at 95 $^{\circ}$ 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

		mbient Inlet Ten	,	
Parameter	35 °F	59 °F	75 °F	95 °F
Hours of Operation	400	400	400	400
Particulate (lb/hr) = Emission rate (lb/hr) from	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) /100	
Fuel density (lb/ft ³)	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 x 46 (mole. wgt NOx) x 60 min/				
40 (mole. Wgt Wex) x 60 mm	m / (1040 x (01 tomp.	(1) 1001) x	x 1,000,000 (00,	
Basis, ppmvd @15% O₂	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) (TPY)	105.1 21.0	101.2 20.2	96.5 19.3	91.1 18.2
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo				
28 (mole. wgt CO) x 60 min/h	nr / [1545 x (C1 temp.(°F) + 460°F) x 1	,000,000 (adj. for pj	om)j
Basis, ppmvd	9	9	9	9
Moisture (%)	7.74	8.59	9.25	10.16
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) (TPY)	30.3 6.1	28.9 5.8	27.6 5.5	26.0 5.2
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%				
16 (mole. wgt as methane) x 60 min	/hr / [1545 x (CT temp.	.(°F) + 460°F) x	1,000,000 (adj. for j	ppm)]
Basis, ppmvw	1.4	1.4	1.4	1.4
Basis, ppmvd	1.52	1.53	1.54	1.56
Moisture (%)	7.74	8.59	9.25	10.16
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) (TPY)	2.92 0.58	2.81 0.56	2.70 0.54	2.57 0.51
Lead (lb/hr)= NA				
Emission Rate Basis	NA	NA	NA	NA
Emission rate (lb/hr)	NA NA	NA NA	NA .	NA NA
(TPY)	NA NA	· NA	NA NA	NA NA
	140		147.	

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	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 Custom		0/42 DI M Cambuntan

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	1b/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.

Nitrogen 73	.80
Oxygen 12	.12
Carbon Dioxide 3.9)5
Water 9.2	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	1b/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		7EU2 Hudrogen

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		
Exhaust Heat (LHV) X 10	Btu/n	993.4	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.			
Argon		0.89	0.87	0.87
Nitrogen		74.14	73.54	72.64
Oxygen		12.15	12.01	11.81
Carbon Dioxide				
Water		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		7FH2 Hyd	drogen-Coo	led Generator
Combustion System			Combusto	
•				

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

Golder Associates Inc.

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

RECEIVED

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.dog

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MAY 15 2003

BUREAU OF AIR REGULATION

CONTRACTOR

PEAK FIRING MODE PERMIT APPLICATION FLORIDA POWER & LIGHT COMPANY SANFORD POWER PLANT - UNITS 4 AND 5 DEBARY, FLORIDA

1270009-009-AC/PSD-FL-270(0)

May 15, 2003

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 Department of Environmental Protection RECEIVED

Division of Air Resources Management

MAY 15 2003 It BUREAU OF AIR REGULATION **APPLICATION FOR AIR PERMIT - TITLE V SOURCE**

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

1.	. Facility Owner/Company Name:				
	Florida Power and Light Company				
2.	. Site Name:				
	Sanford Plant				
3.	. Facility Identification Number: 1270009 [] Unknown				
4.	Street Address or Other Locator: 950 South Highway 17-92				
	City: DeBary County: Volusia County: Volusia Zip Code: 32713				
5.	. Relocatable Facility? 6. Existing Permitted Facility?				
	[] Yes [x] No [x] Yes [] No				
<u>Ar</u>	Application Contact	,			
1.	. Name and Title of Application Contact:				
	Mary Archer, Principal Environmental Specialist				
2.	. Application Contact Mailing Address:				
	Organization/Firm: FPL Environmental Services Dept. [JES/JB]				
	Street Address: 700 Universe Blvd.				
	City: Juno Beach State: FL Zip Code: 33408				
3.	. Application Contact Telephone Numbers: 561 758-3760	ĺ			
	Telephone: (561) 691-7057 Fax: (561) 691-7070 or 691-7049				
Ar	Application Processing Information (DEP Use)				
1.	. Date of Receipt of Application: 5-15-03				
2.	. Date of Receipt of Application: 5-15-03 . Permit Number: 1370009 -009-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 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:

Roxane Kennedy, Plant General Manager

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

Organization/Firm: FPL Sanford Plant

Street Address: 950 South Highway 17-92

City: **DeBary**

State: FL

Zip Code: **32713**

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

Telephone: (386) 575-5211

Fax: (386) 575-5233

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

Professional Engineer Certification

1. Professional Engineer Name: Kennard F. Kosky

Registration Number: 14966

2. Professional Engineer Mailing Address:

Organization/Firm: Golder Associates Inc.*

Street Address: 6241 NW 23rd Street, Suite 500

City: Gainesville State: FL Zip Code: 32653-1500

3. Professional Engineer Telephone Numbers:

Telephone: (352) 336 - 5600 Fax: (352) 336 - 6603

*Certification of Authorization # 00001670

Effective: 2/11/99

4/30/03

^{*} 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.

Thomas 7-14 My	5/14/03
Signature	Date
Seal Kings	

Ittach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
004	Combined Cycle Combustion Turbine Generator 4A CT with Heat Recovery Steam Generator	AC1B	NA
005	Combined Cycle Combustion Turbine Generator 4B CT with Heat Recovery Steam Generator	AC1B	NA
006	Combined Cycle Combustion Turbine Generator 4C CT with Heat Recovery Steam Generator	AC1B	NA
007	Combined Cycle Combustion Turbine Generator 4D CT with Heat Recovery Steam Generator	AC1B	NA
009	Combined Cycle Combustion Turbine Generator 5A CT with Heat Recovery Steam Generator	AC1B	NA
010	Combined Cycle Combustion Turbine Generator 5B CT with Heat Recovery Steam Generator	AC1B	NA
011	Combined Cycle Combustion Turbine Generator 5C CT with Heat Recovery Steam Generator	AC1B	NA
012	Combined Cycle Combustion Turbine Generator 5D CT with Heat Recovery Steam Generator	AC1B	NA

Application Processing Fee

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

<u>Co</u>	enstruction/Modification Information
1.	Description of Proposed Project or Alterations:
	This application is requesting a construction permit to operate combustion turbines associated with Units 4A through 4D and Units 5A through 5D 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: JULY 1, 2004
Ar	oplication Comment
	See Part II.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

l.	Facility UTM Coor	dinates:		
	Zone: 17	East (km	ı): 468.3	North (km): 3190.3
2.	Facility Latitude/Lo Latitude (DD/MM/	•	Longitude (DD/MM/SS): 81 / 19 / 32
3.	Governmental Facility Code:	4. Facility Status Code:	5. Facility Ma Group SIC	•
	0	A	49	4911

7. Facility Comment (limit to 500 characters):

The existing Sanford facility consists of 1 Fossil-Fired Steam Generators (FFSG) and two combined cycle units. FFSG Unit 3 is fired with No. 6 residual fuel oil, No. 2 fuel oil, and natural gas. The FFSG associated with Units 4 & 5 have been replaced with eight advanced CTs burning natural gas and 8 HRSGs to produce two 4-on-1 combined cycle units. Combined Cycle Units 4 and 5 have commenced operation.

Facility Contact

1.	Name and Title of F	Facility Contact:					
	Mr. Randy Hopkins,	Environmental S	pecialist				
2.	Facility Contact Ma Organization/Firm: Street Address:	_					
		DeBary	State:	FL		Zip Code: 32713	
3.	Facility Contact Tel Telephone: (386)	-	:	Fax:	(386)	575-5233	

Facility Regulatory Classifications

Check all that appl	ly	:
---------------------	----	---

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 CTs are subject to NSPS Subpart GG.
List of Applicable Regulations
Facility applicable regulations are listed in the existing Title V permit. No additional facility
Facility applicable regulations are listed in the existing Title V permit. No additional facility
Facility applicable regulations are listed in the existing Title V permit. No additional facility applicable requirements will result from approval of this construction application.

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap		4. Basis for Emissions	5. Pollutant Comment
	01400111	lb/hour	tons/year	Сар	00
				1	
	-				
					-
		-			

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

	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 Unco	
	[] Attached, Document ID:	[X] Not Applicable [] Waiver Requested
5.	Fugitive Emissions Identification:	
	[] Attached, Document ID:	[X] Not Applicable [] Waiver Requested
6.	Supplemental Information for Construction	on Permit Application:
	[X] Attached, Document ID: Part II	[] Not Applicable
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:
[] 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	2	Combustion Turbines 4A thru 4D
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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

	mssions emit best	Tiption and Status		
1.	Type of Emission	s Unit Addressed in This	s Section: (Check one)	
[process or prod		n addresses, as a single emis which produces one or more an point (stack or vent).	
·[x	process or prod		n addresses, as a single emis s which has at least one defi- titive emissions.	
[-		n addresses, as a single emis s which produce fugitive em	*
2.	Regulated or Unr	egulated Emissions Unit	? (Check one)	
[x	The emissions unit.	unit addressed in this Em	issions Unit Information Sec	ction is a regulated
[] The emissions were emissions unit.	unit addressed in this Em	issions Unit Information Sec	ction is an unregulated
3.		nissions Unit Addressed ines 4A through 4D.	in This Section (limit to 60 o	characters):
4.	Emissions Unit Io	lentification Number:	[] No ID
	ID: 004-007		į į] ID Unknown
5.	Emissions Unit Status Code:	6. Initial Startup Date: MAR 2003	7. Emissions Unit Major Group SIC Code: 49	8. Acid Rain Unit? [X]
9.	Emissions Unit C	Comment: (Limit to 500 C	Characters)	,
	natural gas in pea		ic (GE) Frame 7FA Advanced operated in only combined cy same for each CT.	

DEP Form No. 62-210.900(1) - Form

Effective: 2/11/99

Emissions Unit Informa	tion Section	1	of2	Combu	stion Turbines 4A thru 4D
Emissions Unit Control	Equipment				
1. Control Equipment/M	ethod Description	(Limit	to 200 ch	aracters pe	er device or method):
Dry Low NO _x Combus	tors				
·					
			•		
	•				
					•
2. Control Device or Me	ethod Code(s): 02	25			
Emissions Unit Details					
Package Unit: Manufacturer: General	eral Electric		Model	Number:	7FA
2. Generator Nameplate		182	MW	· ·	IFA
3. Incinerator Information					
	well Temperature:				°F
Incinerator Afterbu	Dwell Time:				seconds °F

Emissions Unit Information Section	1	of	2	Combustion Turbines 4A thru 4D
---	---	----	---	--------------------------------

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

Emissions Unit Operating Capacity and Schedule

Moringrum In air anotice Date:			
Maximum Incineration Rate:	lb/hr		tons/day
Maximum Process or Throughp	ut Rate:		
Maximum Production Rate:			
Requested Maximum Operating	Schedule:		
	hours/day		days/week
	weeks/year	400	hours/year
	Maximum Production Rate: Requested Maximum Operating Operating Capacity/Schedule Co Maximum heat input for peak firitegrees Fahrenheit (°F), 20% relications	Requested Maximum Operating Schedule: hours/day weeks/year Operating Capacity/Schedule Comment (limit to 200 cl Maximum heat input for peak firing mode using natural degrees Fahrenheit (°F), 20% relative humidity, and 14.7	Maximum Production Rate: Requested Maximum Operating Schedule: hours/day

	Emissions Unit Information Section of Combustion Turbines 4A thru 4D								
	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.									

Emissions Unit Information Section	1	of	2	Combustion Turbines 4A thru 4D
Emissions enternation occion	•	OI.		

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

Emission Point Description and Type

Identification of Point on P Flow Diagram?								
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):								
Unit can exhaust through HRSG stack.								
4. ID Numbers or Description	s of Emission Ui	nits with this Emi		on:				
Discharge Type Code:V	6. Stack Heig	ht: 125 feet	7. Exit Diameter:	feet				
8. Exit Temperature: 220 °F	Rate:	umetric Flow 6,915 acfm	10. Water Vapor: 8.6	%				
11. Maximum Dry Standard Flo 738,680	ow Rate:		mission Point Height:	feet				
13. Emission Point UTM Coord	dinates:							
Zone: 17 E	ast (km): 468.3	Nort	h (km): 3190.3					
14. Emission Point Comment (limit to 200 char	acters):						
Stack conditions for combined cycle operation, peak firing, and turbine inlet of 59°F. Stack conditions vary based on turbine inlet temperature. All CTs equipped with inlet foggers. See Part II.								

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

Emissions Unit Information Section	1	of	2	Combustion Turbines 4A thru 40
Emissions out thio mation section	•	UI	_	

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

36	gment Description and Ka	ite. Segment 1	_ 01 1						
1.	1. Segment Description (Process/Fuel Type) (limit to 500 characters):								
	Natural Gas								
		•							
2.	Source Classification Code 2-01-002-01	e (SCC):	3. SCC Units						
		5. Maximum A			stimated Annual Activity				
4.	Maximum Hourly Rate: 1.92	718	Miliuai Raie.	1	actor:				
7.	Maximum % Sulfur:	8. Maximum %	% Ash:		Million Btu per SCC Unit:				
10.	. Segment Comment (limit	to 200 characters)):						
	Maximum Hourly Rate = 1,9								
	Annual based on 59°F turb	ine inlet (1,838 Mi	MBtu/hr). Millio	n Btu/S	CC as HHV.				
	<u> </u>	<u> </u>							
Se	gment Description and Ra	ite: Segment	of						
1.	Segment Description (Prod	cess/Fuel Type) (limit to 500 cha	racters	s):				
2.	Source Classification Code	e (SCC):	3. SCC Unit	<u> </u>					
		- (500).							
4.	Maximum Hourly Rate:	5. Maximum A	Annual Rate:		stimated Annual Activity actor:				
7.	7. Maximum % Sulfur: 8. Maximum % Ash: 9. Million Btu per SCC Unit:								
10	. Segment Comment (limit	to 200 characters)):						

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

Emissions Unit Information Section	1	of	2	Combustion Turbines 4A thru 4
---	---	----	---	-------------------------------

F. EMISSIONS UNIT POLLUTANTS (All Emissions Units)

	WP
	 WP
025	EL
	 EL
	EL

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

Emissions Unit Information Section	1	_ of _	2	Combustion Turbines 4A thru 4D
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 Efficiency of Control:						
PM							
3. Potential Emissions:	4. Synthetically						
9 lb/hour	1.8 tons/year Limited? [X]						
5. Range of Estimated Fugitive Emissions:							
	to tons/year						
6. Emission Factor: 9 lb/hr	7. Emissions Method Code:						
Reference: GE, 2000	2						
8. Calculation of Emissions (limit to 600 chara	ecters):						
See Part II.							
·							
9. Pollutant Potential/Fugitive Emissions Com	ment (limit to 200 characters):						
Potential emissions for one (1) CT and peak	firing mode.						
. Otomica omosions for one (1) of and peak ining mode.							
Allowable Emissions Allowable Emissions	<u>1</u> of <u>1</u>						
Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:						
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions:						
10% Opacity	9 lb/hour 1.8 tons/year						
5. Method of Compliance (limit to 60 characte	rs):						
EPA Method 9							
6. Allowable Emissions Comment (Desc. of O	. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):						
Peak firing mode with natural gas. Equivalent allowable emissions for one (1) CT.							
	•						

Emissions Unit Information Section	1	_ of _	2	Combustion Turbines 4A thru 4D
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

10	tential/Fugitive Emissions							
1.	Pollutant Emitted:	2. T	`otal	Percent Ef	ficie	ncy of Control:		
	SO ₂							
3.	Potential Emissions:				Ī	4. Synthetically		
	5.1 lb/hour	1.0	2	tons/year		Limited? [X]		
5.	Range of Estimated Fugitive Emissions:							
	[] 1 [] 2 [] 3			_ to	_ tor	ns/year		
6.	Emission Factor: 1 grain S/100 cf Gas					7. Emissions		
	Reference: GE, 2000; Golder, 2003					Method Code:		
8.	Calculation of Emissions (limit to 600 chara	cters)	:					
	See Part II.							
	occi aren.							
9.	9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):							
	Detential emissions for one (4) CT and peak fining mode							
	Potential emissions for one (1) CT and peak firing mode.							
Al	Allowable Emissions 1 of 1							
1.	Basis for Allowable Emissions Code:	2.	Futu	re Effective	e Da	te of Allowable		
	OTHER		Emi	ssions:				
3.	Requested Allowable Emissions and Units:	4.	Equi	valent Allo	wab	ole Emissions:		
				5.1 lb/hou	r	1.02 tons/year		
5.	Method of Compliance (limit to 60 characte	rs):						
	Fuel Sampling; Vendor Sampling Pipeline Quality Natural Gas							
6.	6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):							
	Equivalent allowable emissions for one (1) CT. Allowable based on typical maximum fuel sulfur content. Peak firing mode with natural gas.							

Emissions Unit Information Section	1	of	2	Combustion Turbines 4A thru 4D
Pollutant Detail Information Page	3	of	5	Nitrogen Oxides

<u>Po</u>	tential/Fugitive Emissions						
1.	Pollutant Emitted:	2. 7	otal	Percent Effici	ency	y of Control:	
	NO _x						
3.	Potential Emissions:				4.	Synthetica	lly
	101.2 lb/hour	20.2	24	tons/year		Limited?	[X]
5.	Range of Estimated Fugitive Emissions:						
				to to	ns/y		
6.	Emission Factor: 15 ppmvd @ 15% O ₂				′·	Emissions Method Co	ode:
	Reference: GE, 2000					2	
8.	Calculation of Emissions (limit to 600 chara	cters)	:				
	See Part II						
	•						
_	P.H P		<i>(</i> 1.	· · · · · · · · · · · · · · · · · · ·			
9.	Pollutant Potential/Fugitive Emissions Com	ment	(lim	it to 200 charac	sters	s):	
	Potential emissions for one (1) CT and peak f	firing	mod	e.			
All	lowable Emissions Allowable Emissions	1	of_	1			
1.	Basis for Allowable Emissions Code:	2.	Futı	ire Effective D	ate o	of Allowable	•
_	OTHER			ssions:			
3.	Requested Allowable Emissions and Units:	4.	Equ	ivalent Allowa	ble	Emissions:	
	15 ppmvd @ 15% O ₂			101.2 lb/hour	ŗ	20.24 tons/	year
5.	Method of Compliance (limit to 60 character	rs):					
	CEM - Part 75						
6.	Allowable Emissions Comment (Desc. of O	perati	ng N	Method) (limit t	o 20	00 characters	s):
	Allowable emissions are a 2 hour block areas		\C.+	ا حالمهما ا	ınc	Cotool: E	ivalant
	Allowable emissions are a 3-hour block avera allowable emissions for one (1) CT. Peak firit	-				G Stack. Equ	iivaient
	(1)			J			

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

Po	tential/Fugitive Emissions			
1.	Pollutant Emitted:	2. To	tal Percent Ef	fficiency of Control:
	со			
3.	Potential Emissions:			4. Synthetically
	28.9 lb/hour	5.78	tons/year	Limited? [X]
5.	Range of Estimated Fugitive Emissions:			
			to	_ tons/year
6.	Emission Factor: 9 ppmvd			7. Emissions Method Code:
	Reference: GE, 2000			2
8.	Calculation of Emissions (limit to 600 chara	acters):		
	See Part II.			
9.	Pollutant Potential/Fugitive Emissions Com	ment (l	imit to 200 ch	naracters):
	Potential emissions for one (1) CT and peak	firing m	odo	
	Potential emissions for one (1) CT and peak	ming m	oue.	
Al	lowable Emissions Allowable Emissions	1 o	f1	
1.	Basis for Allowable Emissions Code:	2. F	uture Effectiv	e Date of Allowable
	OTHER	E	missions:	
3.	Requested Allowable Emissions and Units:	4. E	quivalent Allo	owable Emissions:
	9 ppmvd		28.9 lb/hou	ur 5.78 tons/year
5.	Method of Compliance (limit to 60 characte	ers):		
	EPA Method 10; Annual Test			
6.	Allowable Emissions Comment (Desc. of O	perating	Method) (lir	mit to 200 characters):
	(•	, ,	,
	Peak firing mode with natural gas. Equivalent	nt allow	able emission	s for one (1) CT.

Emissions Unit Information Section	1	of	2	Combustion Turbines 4A thru 4D
Pollutant Detail Information Page	5	of	5	Volatile Organic Compounds

<u>P0</u>	tential/Fugitive Emissions							
1.	Pollutant Emitted:	2.	Γotal P	erce	nt Effic	ciency	of Control	:
	VOC							
3.	Potential Emissions:					4.	Synthetica	ally
	2.81 lb/hour	0.	56 t	ons/y	year		Limited?	[X]
5.	Range of Estimated Fugitive Emissions:							
				to _	1	tons/y		
6.	Emission Factor: 1.4 ppmvw					7.	Emissions Method C	
	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	(limit	to 20	0 char	acters):	
	Detential emissions for an /4\ CT and neak fi	rina	nada					
	Potential emissions for on (1) CT and peak fi	ring n	noue.					
	•							
Al	lowable Emissions Allowable Emissions	1	of	1				
1.	Basis for Allowable Emissions Code:	2.	Future	e Effe	ective I	Date of	of Allowabl	e
	OTHER		Emiss	ions:	;			
3.	Requested Allowable Emissions and Units:	4.	Equiv	alent	Allow	able	Emissions:	
	1.4 ppmvw		2.8	1 lb	/hour		0.56 tons/y	ear
5.	Method of Compliance (limit to 60 characte	rs):						
	EPA Method 18 or 25A; Initial Compliance Te	st on	ly					
6.	Allowable Emissions Comment (Desc. of O	perat	ing Me	thod) (limit	t to 20	00 character	rs):
	Empired and all acceptance of the second of	T 5			- d - · · · · · · · · · · · · ·		unal maa	
	Equivalent allowable emissions for one (1) C	1. Pe	ak tirii	ig mo	oae wit	n nati	urai gas.	

Emissions Unit Information Section1	of Combustion Turbines 4A thru 4
	SIONS INFORMATION Units Subject to a VE Limitation)
Visible Emissions Limitation: Visible Emiss	ions Limitation 1 of 2
Visible Emissions Subtype: VE10	2. Basis for Allowable Opacity: [] Rule [X] Other
Requested Allowable Opacity: Normal Conditions: 10 % E Maximum Period of Excess Opacity Allow	xceptional Conditions: % red: min/hour
4. Method of Compliance:	
Annual VE Test - EPA Method 9.	
5. Visible Emissions Comment (limit to 200 o	characters):
Peak Firing Mode with Natural Gas	
	,
·	
	ONITOR INFORMATION s Subject to Continuous Monitoring)
Continuous Monitoring System: Continuous	s Monitor1 of1
1. Parameter Code: EM	2. Pollutant(s): NO _x
3. CMS Requirement:	[X] Rule [] Other
4. Monitor Information: Manufacturer: To be provided with initial T Model Number:	itle V application. Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
·	
7. Continuous Monitor Comment (limit to 20	0 characters):
CEMs meet 40 CFR Part 75.	

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En	nissions Unit Information Section1		of _	2	_	Com	busti	on Tu	urbines 4A thru 4D
	H. VISIBLE EMISSI (Only Regulated Emissions University)							itatio	on)
<u>Vi</u>	sible Emissions Limitation: Visible Emission	ons	Lim	itatio	n _	2_	_ of_	2	
1.	Visible Emissions Subtype: VE99	2.		sis fo] Rı		llowa	ble (Opaci [ty:
3.	Requested Allowable Opacity: Normal Conditions: % Ex Maximum Period of Excess Opacity Allower	-	tiona	al Co	ndit	ions:		100 60	% min/hour
4.	Method of Compliance:								
	None								
5.	Visible Emissions Comment (limit to 200 cl FDEP Rule 62-210.700(1). Allowed for 2 hour shutdown, and malfunction. (Note: Allowan Title V permit.)	·s (1	20 m	ninute					
Co	I. CONTINUOUS MO (Only Regulated Emissions Units ontinuous Monitoring System: Continuous	Sul	jec	t to C	Cont	tinuo			oring)
	Parameter Code:			llutar				_	
								1.0	
	CMS Requirement:	Ĺ	J Þ	Rule			L] O	ther
4.	Monitor Information: Manufacturer: Model Number:			Seria	al N	lumb	er:		
5.	Installation Date:	6.	Per	rform	anc	e Sp	ecific	ation	Test Date:
7.	Continuous Monitor Comment (limit to 200	cha	ract	ers):	_				

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Emissions Unit Information Section	1	of 2	Combustion Turbines 4A thru 4D

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

Supplemental Requirements

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

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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
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

Emissions Unit Information Section	2	of	2	Combustion Turbines 5A thru 5D
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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

Emissions enic Descriptio	n ana otatus						
1. Type of Emissions Unit	Addressed in This	Section: (Check one)					
process or production	unit, or activity, w	n addresses, as a single emi hich produces one or more n point (stack or vent).	_				
[X] This Emissions Unit I process or production (stack or vent) but ma	units and activities	s which has at least one det					
-		n addresses, as a single emi s which produce fugitive en					
2. Regulated or Unregulate	ed Emissions Unit	? (Check one)					
[X] The emissions unit ad emissions unit.	[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.						
[] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.							
3. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Combustion Turbines 5A through 5D.							
4. Emissions Unit Identific	cation Number:	[] No ID				
ID: 009-012	ID: 009-012 [] ID Unknown						
Status Code: D	nitial Startup Date: EB 2002	7. Emissions Unit Major Group SIC Code: 49	8. Acid Rain Unit?				
9. Emissions Unit Comme	nt: (Limit to 500 C	Characters)	- 1				
The emission units are four General Electric (GE) Frame 7FA Advanced CTs. Unit 5 will use natural gas in peak firing mode. It can be operated in only combined cycle mode. Nameplate ratings, heat input, emissions, etc., are the same for each CT.							

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Emissions Unit Information Section	2	of <u>2</u>	Combustion Turbines 5A thru 50
Emissions Unit Control Equipment			
1. Control Equipment/Method Description	ion (Limit	to 200 char	acters per device or method):
Dry Low NO _x Combustors			
	-		•
2. Control Device or Method Code(s):	025		
Emissions Unit Details			
1. Package Unit:			·
Manufacturer: General Electric	400		imber: 7FA
2. Generator Nameplate Rating:	182	MW	
3. Incinerator Information: Dwell Temperatur	re:		°F
Dwell Tin	ne:		seconds
Incinerator Afterburner Temperatu	re:		°F

2

Combustion Turbines 5A thru 5D

Emissions Unit Information Section	2	of	2	Combustion Turbines 5A thru 5	D
Divissions Chit Into mation Section	_	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 Throughpo	ut Rate:		
4.	Maximum Production Rate:			
5.	Requested Maximum Operating	Schedule:	-	
		hours/day		days/week
		weeks/year	400	hours/year
6.	Operating Capacity/Schedule Co	omment (limit to 200 cl	naracters):	
	Maximum heat input for peak firi degrees Fahrenheit (°F), 20% rela Value (HHV). Generator namepla	ative humidity, and 14.7	psia. Heat inp	ut as High Heating

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Emissions Unit Infor	mation Section	2	of	2	Combustion Turbines 5A thru 5D
	C. EMISSIO (Regulated				
List of Applicable Re	gulations				
Applicable regulation	ons do not change	as a resu	ılt of this	const	ruction permit application.
•					
			`		
•					

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Emissions Unit Information Section	2	of	2	Combustion Turbines 5A thru 5D
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D. EMISSION POINT (STACK/VENT) INFORMATION (Regulated Emissions Units Only)

Emission Point Description and Type

1.	Identification of Point on Pl Flow Diagram?	ot Plan or	2. Emission Point Type Code: 3					
3.	3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):							
	Unit can exhaust through HRSG stack.							
4.	4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:							
5.	Discharge Type Code:	6. Stack Heigh		7. Exit Diamet				
	V		125 feet		19	feet		
8.	Exit Temperature:	9. Actual Vol	umetric Flow	10. Water Vapo	r:			
	220 °F	Rate:	0.045		8.6	%		
11	. Maximum Dry Standard Flo		6,915 acfn	n ck Emission Point He	ight:			
	738,680 dscfm feet							
13	. Emission Point UTM Coord	linates:						
	Zone: 17 East (km): 468.3 North (km): 3190.3							
14	. Emission Point Comment (1	imit to 200 chara	acters):					
	Stack conditions for combi Stack conditions vary base foggers. See Part II.							

Emissions Unit Information Section	2	οf	2	Combustion Turbines 5A thru 50
Emissions unit intol mation section	_	OI.	_	Combustion Turbines on this of

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

36	gment Description and Ra	ite. Segmenti	01				
1.	Segment Description (Prod	cess/Fuel Type)	(limit to 500 ch	arac	ters):		
	Natural Gas						
2.	Source Classification Code 2-01-002-01	e (SCC):	3. SCC Units		oot .		
4.	Maximum Hourly Rate: 1.92	5. Maximum <i>i</i>	_		Estimated Annual Activity Factor:		
7.	Maximum % Sulfur:	8. Maximum	% Ash:	9.	Million Btu per SCC Unit: 1,024		
10	. Segment Comment (limit	to 200 characters):				
	Maximum Hourly Rate = 1,9						
	Annual based on 59°F turb	ine inlet (1,838 M	MBtu/hr). Millio	n Bt	u/SCC as HHV.		
Se	Segment Description and Rate: 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.	Maximum % Sulfur:	8. Maximum 9	% Ash:	9.	Million Btu per SCC Unit:		
10	. Segment Comment (limit	to 200 characters):	<u> </u>			
ı							

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Emissions unit information Section 2 of 2 combustion furnites by the section of the combustion furnites by the combustion of the combustio	Emissions Unit Information Section	2	of	2	Combustion Turbines 5A thru !
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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	2	_ of _	2	Combustion Turbines 5A thru 5D
Pollutant Detail Information Page	1	of _	5	Particulate Matter - Total

<u>Po</u>	tential/Fugitive Emissions						
1.	Pollutant Emitted:	2.	Tota	Percent E	fficie	ency of Control:	
	РМ						
3.	Potential Emissions:					4. Synthetically	/
	9 lb/hour		1.8	tons/year		Limited? [[X]
5.	Range of Estimated Fugitive Emissions:			to	to	ns/year	
6.	[] 1 [] 2 [] 3 Emission Factor: 9 lb/hr			to	_ 10	7. Emissions	
0.						Method Cod	e:
	Reference: GE, 2000					2	
8.	Calculation of Emissions (limit to 600 chara	cters) :				
	See Part II.						
	•						
9.	Pollutant Potential/Fugitive Emissions Com	ment	(lim	it to 200 ch	arac	ters):	
	Potential emissions for one (1) CT and peak	firina	mod	A			
	Totalial chilosions for one (1) of and peak	9					
<u>Al</u>	Allowable Emissions 1 of 1						
1.	Basis for Allowable Emissions Code:	2.	Futi	ıre Effectiv	e Da	ate of Allowable	
	OTHER	<u> </u>		issions:			
3.	Requested Allowable Emissions and Units:	4.	Equ	ivalent All	ował	ole Emissions:	
	10% Opacity			9 lb/hou	ır	1.8 tons/yea	ır
5.	Method of Compliance (limit to 60 characte	rs):					
	EPA Method 9						
6.	Allowable Emissions Comment (Desc. of O	perat	ing N	Method) (lin	nit to	200 characters):	
	Peak firing mode with natural gas. Equivaler	nt alle	wah	la amission	s for	one (1) CT	
		n and	, au		3 (0)	5.16 (1) 51.	

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

Emissions-Limited and Preconstruction Review Pollutants Only)

10	tential/Fugitive Emissions						
1.	Pollutant Emitted:	2. T	otal	Percent Effic	cienc	y of Control:	
	SO ₂						
3.	Potential Emissions:				4.	Synthetically	
	5.1 lb/hour	1.0	2	tons/year		Limited? [X]	
5.	Range of Estimated Fugitive Emissions:						
	[] 1 [] 2 [] 3			_ to	tons/		
6.	Emission Factor: 1 grain S/100 cf Gas				7.	Emissions	
	Reference: GE, 2000; Golder, 2003					Method Code:	
8.	3. Calculation of Emissions (limit to 600 characters):						
	See Part II.						
	See Fait II.						
9.	Pollutant Potential/Fugitive Emissions Com	ment (limi	t to 200 char	acter	s):	
	Potential emissions for one (1) CT and peak t	firina n	node	<u>.</u>			
	Totalina of the city of and pour	9		··			
Al	Allowable Emissions 1 of 1						
1.	Basis for Allowable Emissions Code:	2. 1	Futu	re Effective 1	Date	of Allowable	
	OTHER]	Emi	ssions:			
3.	Requested Allowable Emissions and Units:	4.]	Equi	valent Allow	able	Emissions:	
				5.1 lb/hour		1.02 tons/year	
5.	Method of Compliance (limit to 60 character	rs):					
	Fuel Sampling; Vendor Sampling Pipeline Quality Natural Gas						
6.	Allowable Emissions Comment (Desc. of O	peratir	ng N	lethod) (limi	t to 2	00 characters):	
	Equivalent allowable emissions for one (1) C sulfur content. Peak firing mode with natura		owal	ole based on	typica	al maximum fuel	

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

Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

i otontian i agitive Dimissions	
1. Pollutant Emitted:	2. Total Percent Efficiency of Control:
NO _x	
3. Potential Emissions:	4. Synthetically
101.2 lb/hour	20.24 tons/year Limited? [X]
5. Range of Estimated Fugitive Emissions:	
	to tons/year
6. Emission Factor: 15 ppmvd @ 15% O ₂	7. Emissions
Reference: GE, 2000	Method Code:
8. Calculation of Emissions (limit to 600 char	
See Part II	
	· (1) '44-200 (14)
9. Pollutant Potential/Fugitive Emissions Con	ament (limit to 200 characters):
Potential emissions for one (1) CT and peak	firing mode.
(, , , , , , , , , , , , , , , , , , ,	3
Allowable Emissions Allowable Emissions	1 of 1
1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable
OTHER	Emissions:
3. Requested Allowable Emissions and Units	
15 ppmvd @ 15% O ₂	101.2 lb/hour 20.24 tons/year
5. Method of Compliance (limit to 60 charact	ers):
CEM - Part 75	
6. Allowable Emissions Comment (Desc. of Comment	Operating Method) (limit to 200 characters):
Allowable and advance of the state of	OFM to in stalled in UDOO starts Fore her last
Allowable emissions are a 3-hour block ave allowable emissions for one (1) CT. Peak fi	rage. CEM is installed in HRSG stack. Equivalent
anomable chilosions for one (1) of. Fear in	my mode with natural gas.

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

Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

	THE PERSON OF TH						
1.	Pollutant Emitted:	2.	Γotal	Per	cent E	fficie	ency of Control:
	со						
3.	Potential Emissions:						4. Synthetically
	28.9 lb/hour	5.	78	ton	s/year		Limited? [X]
5.	Range of Estimated Fugitive Emissions:						
	[] 1 [] 2 [] 3	_		_ to		to:	ns/year
6.	Emission Factor: 9 ppmvd						7. Emissions
	Reference: GE, 2000						Method Code: 2
8.	Calculation of Emissions (limit to 600 chara	cters):				-
	See Part II.						
9.	Pollutant Potential/Fugitive Emissions Comm	ment	(limi	t to	200 cł	narac	ters):
	Potential emissions for one (1) CT and peak f	irina	mode				
	otential emissions for one (1) or and peak i	ııııy	mout	7.			
All	lowable Emissions Allowable Emissions	1	of	1	_		
1.	Basis for Allowable Emissions Code:	2.	Futu	re E	ffectiv	e Da	ate of Allowable
	OTHER		Emis	ssio	ns:		
3.	Requested Allowable Emissions and Units:	4.	Equi	vale	nt All	ował	ole Emissions:
	9 ppmvd		2	8.9	lb/ho	ur	5.78 tons/year
5.	Method of Compliance (limit to 60 character	rs):					
	EPA Method 10; Annual Test						
6.	Allowable Emissions Comment (Desc. of O	perati	ing M	letho	od) (lii	mit to	o 200 characters):
	Peak firing mode with natural gas. Equivalen	nt allo	wable	e em	nission	s for	one (1) CT.

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

Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1.	Pollutant Emitted: VOC	2. Total Percent Efficiency of Control:				
	Potential Emissions: 2.81 lb/hour	4. Synthetically Limited? [X]				
5.	Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3	to tons/year				
6.	Emission Factor: 1.4 ppmvw Reference: GE, 2000	7. Emissions Method Code:				
8.	Calculation of Emissions (limit to 600 chara	acters):				
	See Part II.					
9.	Pollutant Potential/Fugitive Emissions Com	ment (limit to 200 characters):				
	Potential emissions for on (1) CT and peak firing mode.					
All	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:				
	1.4 ppmvw	2.81 lb/hour 0.56 tons/year				
5.	Method of Compliance (limit to 60 character	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 natural gas.				

	V- P							
En	nissions Unit Information Section2	of 2 Combustion Turbines 5A thru 5D						
	H. VISIBLE EMISSIONS INFORMATION (Only Regulated Emissions Units Subject to a VE Limitation)							
Vi	Visible Emissions Limitation: Visible Emissions Limitation 1 of 2							
1.	Visible Emissions Subtype: VE10	2. Basis for Allowable Opacity: [] Rule [X] Other						
3.	3. Requested Allowable Opacity: Normal Conditions: 10 % Exceptional Conditions: Maximum Period of Excess Opacity Allowed: min/hour							
4.	4. Method of Compliance:							
	Annual VE Test - EPA Method 9.							
5.	Visible Emissions Comment (limit to 200 c	haracters):						
	Peak Firing Mode with Natural Gas							
	J .							
	I. CONTINUOUS MONITOR INFORMATION (Only Regulated Emissions Units Subject to Continuous Monitoring)							
_	ntinuous Monitoring System: Continuous							
1.	Parameter Code: EM	2. Pollutant(s): NO _x						
3.	CMS Requirement:	[X] Rule [] Other						
4.		420C/1831						
	5C= 42CLS-77998-387 01	420C/1832 420C/1833 420C/1834						

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DEP Form No. 62-210.900(1) - Form

CEMs meet 40 CFR Part 75.

(Original NO_x replaced in 2002)

1 JAN 2002 (5A) through 30 APR 2002 (5D)

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

5. Installation Date:

Effective: 2/11/99

6. Performance Specification Test Date:

21 APR 2003 (5A); 22 APR 2003 (5B);

23 APR 2003 (5C); Sch. MAY 2003 (5D)

	H. VISIBLE EMISSIONS INFORMATION (Only Regulated Emissions Units Subject to a VE Limitation)						
<u>Vi</u>	sible Emissions Limitation: Visible Emissi	ons Limitation 2 of 2					
1.	Visible Emissions Subtype: VE99	Basis for Allowable Opacity: [X] Rule [] Other					
3.	3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour						
4.	4. Method of Compliance:						
	None						
5.	Visible Emissions Comment (limit to 200 c	haracters):					
	FDEP Rule 62-210.700(1). Allowed for 2 hours (120 minutes) per 24 hours for start-up, shutdown, and malfunction. (Note: Allowance for cold startup and shutdown specified by permit.)						
Co		NITOR INFORMATION Subject to Continuous Monitoring) Monitor of					
1.	Parameter Code:	2. Pollutant(s):					
3.	CMS Requirement:	[] Rule [] Other					
4.	Monitor Information: Manufacturer: Model Number:	Serial Number:					
5.	Installation Date:	6. Performance Specification Test Date:					
7.	Continuous Monitor Comment (limit to 200	characters):					

2

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

Emissions Unit Information Section

Combustion Turbines 5A thru 5D

Emissions Unit Information Section	2	of	2	Combustion Turbines 5A thru 5D
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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:

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

Emissions Unit Information Section	2	of 2	Combustion Turbines 5A thru 5D
emissions only intol manon section	_	V1 -	COMBCONON CORRESPONDE

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
SANFORD UNITS 4A THROUGH 4D AND UNITS 5A THROUGH 5D
PEAK FIRING MODE

APPLICATION FOR AIR CONSTRUCTION PERMIT SANFORD UNITS 4A THROUGH 4D AND UNITS 5A THROUGH 5D PEAK FIRING MODE

Introduction

The Florida Power & Light Company (FPL) Sanford Plant is located on approximately 1,700 acres on the St. Johns River about three (3) miles northwest of Sanford, Florida. The site is located within the City of DeBary, Volusia County, Florida. In September 1999, an Air Construction Permit and Prevention of Significant Deterioration (PSD) approval was issued for the installation of eight 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 (FDEP) File No. 1270009-004-AC]. The CTs are designated as Units 4A through 4D associated with the repowering of the existing Unit 4 steam turbine/generator and Units 5A through 5D associated with the repowering of the existing Unit steam turbine/generator. The combustion turbines are General Electric (GE) Frame 7FA (Model PG7241) that are authorized to fire natural gas with distillate oil authorized as backup for Units 5A through 5D. 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 carbons (VOCs) for Peak Firing Mode and baseload operation. Emissions are presented for each CT and the eight CTs associated with Units 4A through 4D and Units 5A through 5D. 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 combustion turbines. 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 eight CTs.

The Sanford Plant has creditable emission decreases over the last several years resulting from shutting down the existing residual oil and natural gas-fired steam-generating units (i.e., steam generators for Units 4 and 5). The steam generators for Units 4 and 5 were retired in 2002 and 2001, respectively. The emission reductions from these retirements are contemporaneous with the proposed Peak Firing Mode. Peak Firing is scheduled to be completed by June 2004, which is well within the 5-year contemporaneous period for the creditable reductions from the Units 4 and 5 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 Sanford Plant, Units 4A Through 4D and 5A Through 5D

		Peak Firin	g at 59 °F	Base Load	at 59 °F		
Pollutant		per CT	8 CTs	per CT	8 CTs	Difference	SER ^b
PM/PM ₁₀	lb/hr	9	72	9	72		_
	TPY^{a}	1.8	14.4	1.8	14.4	0	15/25
SO ₂	lb/hr	5.1	40.8	4.9	39.2		
	TPY^a	1.02	8.16	0.98	7.84	0.32	40
NO _x	lb/hr	101.2	809.6	58.7	469.6		
	TPY^a	20.24	161.92	11.74	93.92	68	40
СО	lb/hr	28.9	231.2	28.8	230.4		
	TPY^a	5.78	46.24	5.76	46.08	0.16	100
VOC	lb/hr	2.81	22.48	2.79	22.32		
	TPY^{a}	0.562	4.496	0.558	4.464	0.032	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 FPL Sanford Plant

Pollutant	Actual Emissions	Repowering Project ^a	Peak Operation	Net Emission Change	SER ^b	PSD Review Applicable?
NO _x	9,984.0	2,738.0	68.0	-7,178.0	40	No Net Emission Increase

^a FDEP File No. 0710002-004-AC; PSD-FL-270; Sanford Repowering Project.

^b SER = significant emission rate 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/ib, 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 1,0	000,000 Btu/MMBtu	Fuel Heat Conte	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 1,54					
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) / [((diame	ter)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

_		Ambient Inlet Tem	•	
Parameter	35 °F	59 °F	75 °F	95 °F
Hours of Operation	400	400	400	400
Particulate (lb/hr) = Emission rate (lb/hr) from	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 so	ulfur content(gr/100 cf	f) x 1 lb/7000 gr x	(lb SO ₂ /lb S) /100	
Fuel density (lb/ft³)	0.0448	0.0448	0.0448	0.044
Fuel use (cf/hr)	1,851,839	1,774,675	1,702,119	1,605,23
Sulfur content (grains/ 100 cf)	1	1	1	
lb SO ₂ /lb S (64/32)	2	2	2	
Emission rate (lb/hr)	5.3	5.1	4.9	4.
(TPY)	1.06	1.01	0.97	0.9
Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x 46 (mole, wgt NOx) x 60 min/				
Basis, ppmvd @15% O ₂	15	15	15	1
Moisture (%)	7.74	8.59	9.25	10.1
Oxygen (%)	12.39	12.2	12.12	11.9
Turbine Flow (acfm)	2,488,641	2,438,274	2,363,849	2,279,04
Turbine Exhaust Temperature (°F)	1,109	1,139	1,152	1,17
Emission rate (lb/hr)	105.1	101.2	96.5	91
(TPY)		20.2	400	
(11 1)	21.0	20.2	19.3	18.
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h	oisture(%)/100] x 2116	6.8 lb/ft2 x Volume	e flow (acfm) x	
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo	oisture(%)/100] x 2116	6.8 lb/ft2 x Volume	e flow (acfm) x	
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h	oisture(%)/100] x 2116 nr / [1545 x (CT temp.(5.8 lb/ft2 x Volume (°F) + 460°F) x 1.	e flow (acfm) x 000,000 (adj. for pj	pm)]
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/f Basis, ppmvd	oisture(%)/100] x 2116 nr / [1545 x (CT temp.(5.8 lb/ft2 x Volume (°F) + 460°F) x 1,	e flow (acfm) x 000,000 (adj. for pp	pm)] 10.1
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h Basis, ppmvd Moisture (%)	oisture(%)/100] x 2116 nr / [1545 x (CT temp.(9 7.74	5.8 lb/ft2 x Volume (°F) + 460°F) x 1 9 8.59	e flow (acfm) x 000,000 (adj. for pp 9 9.25	pm)] 10. ⁻ 2,279,04
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h Basis, ppmvd Moisture (%) Turbine Flow (acfm) Turbine Exhaust Temperature (°F) Emission rate (lb/hr)	oisture(%)/100] x 2116 or / [1545 x (CT temp.(9 7.74 2,488,641	5.8 lb/ft2 x Volumo (°F) + 460°F) x 1 9 8.59 2,438,274	e flow (acfm) x 000,000 (adj. for pp 9 9.25 2,363,849	pm)] 10. ⁻ 2,279,0 ⁴ 1,1 ¹ 26
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h Basis, ppmvd Moisture (%) Turbine Flow (acfm) Turbine Exhaust Temperature (°F)	oisture(%)/100] x 2116 or / [1545 x (CT temp.(9 7.74 2,488,641 1,109	5.8 lb/ft2 x Volume (°F) + 460°F) x 1 9 8.59 2,438,274 1,139	e flow (acfm) x 0000,000 (adj. for pp 9 9.25 2,363,849 1,152	pm)] 10. 2,279,04 1,11 26
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h Basis, ppmvd Moisture (%) Turbine Flow (acfm) Turbine Exhaust Temperature (°F) Emission rate (lb/hr) (TPY)	oisture(%)/100] x 2116 or / [1545 x (CT temp.(9 7.74 2,488,641 1,109 30.3 6.1)/100] x 2116.8 lb/ft2 x	5.8 lb/ft2 x Volume (°F) + 460°F) x 1, 9 8.59 2,438,274 1,139 28.9 5.8	e flow (acfm) x 0000,000 (adj. for pp 9 9.25 2,363,849 1,152 27.6 5.5	pm)] 10.1 2,279,04 1,17 26 5
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h Basis, ppmvd Moisture (%) Turbine Flow (acfm) Turbine Exhaust Temperature (°F) Emission rate (lb/hr) (TPY)	oisture(%)/100] x 2116 or / [1545 x (CT temp.(9 7.74 2,488,641 1,109 30.3 6.1)/100] x 2116.8 lb/ft2 x	5.8 lb/ft2 x Volume (°F) + 460°F) x 1, 9 8.59 2,438,274 1,139 28.9 5.8	e flow (acfm) x 0000,000 (adj. for pp 9 9.25 2,363,849 1,152 27.6 5.5	pm)] 10. 2,279,04 1,17 26 5 ppm)]
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h 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	oisture(%)/100] x 2116 or / [1545 x (CT temp.(9 7.74 2,488,641 1,109 30.3 6.1)/100] x 2116.8 lb/ft2 x /hr / [1545 x (CT temp	5.8 lb/ft2 x Volume (°F) + 460°F) x 1 9 8.59 2,438,274 1,139 28.9 5.8 x Volume flow (ac	e flow (acfm) x 0000,000 (adj. for p) 9 9.25 2,363,849 1,152 27.6 5.5 fm) x 1,000,000 (adj. for p	pm)] 10. 2,279,0 1,11 26 5 ppm)]
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h 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	oisture(%)/100] x 2116 or / [1545 x (CT temp.(9 7.74 2,488,641 1,109 30.3 6.1)/100] x 2116.8 lb/ft2 x /hr / [1545 x (CT temp	5.8 lb/ft2 x Volume (°F) + 460°F) x 1, 9 8.59 2,438,274 1,139 28.9 5.8 x Volume flow (ac 0.(°F) + 460°F) x 1	e flow (acfm) x 0000,000 (adj. for p) 9 9.25 2,363,849 1,152 27.6 5.5 fm) x 1,000,000 (adj. for p)	pm)] 10. 2,279,0 1,11 26 5 ppm)]
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h 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	oisture(%)/100] x 2116 or / [1545 x (CT temp.(9 7.74 2,488,641 1,109 30.3 6.1)/100] x 2116.8 lb/ft2 x /hr / [1545 x (CT temp	5.8 lb/ft2 x Volume (°F) + 460°F) x 1, 9 8.59 2,438,274 1,139 28.9 5.8 x Volume flow (ac 0.(°F) + 460°F) x 1, 1,4 1,53	e flow (acfm) x 000,000 (adj. for p) 9 9.25 2,363,849 1,152 27.6 5.5 fm) x 1,000,000 (adj. for p) 1.4 1.54	pm)] 10. 2,279,0 1,11 26 5 ppm)] 1 1.5
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h 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 (%)	oisture(%)/100] x 2116 or / [1545 x (CT temp.(9 7.74 2,488,641 1,109 30.3 6.1)/100] x 2116.8 lb/ft2 o /hr / [1545 x (CT temp 1.4 1.52 7.74	5.8 lb/ft2 x Volume (°F) + 460°F) x 1, 9 8.59 2,438,274 1,139 28.9 5.8 x Volume flow (ac 0.(°F) + 460°F) x 1,4 1,53 8.59	e flow (acfm) x 0000,000 (adj. for pr 9 9.25 2,363,849 1,152 27.6 5.5 fm) x 1,000,000 (adj. for pr 1.4 1.54 9.25	pm)] 10. 2,279,0 1,11 26 5 ppm)] 1 1.5 10. 2,279,0
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h 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 (%)	oisture(%)/100] x 2116 or / [1545 x (CT temp.(9 7.74 2,488,641 1,109 30.3 6.1)/100] x 2116.8 lb/ft2 o /hr / [1545 x (CT temp.(1.4 1.52 7.74 2,488,641	5.8 lb/ft2 x Volume (°F) + 460°F) x 1 9 8.59 2,438,274 1,139 28.9 5.8 x Volume flow (ac 0.(°F) + 460°F) x 1 1.53 8.59 2,438,274	e flow (acfm) x 000,000 (adj. for p) 9 9.25 2,363,849 1,152 27.6 5.5 fm) x 1,000,000 (adj. for p) 1.4 1.54 9.25 2,363,849	pm)] 10. 2,279,0- 1,11 26 5 ppm)] 1 1.5 2,279,0- 1,11
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h 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)	pisture(%)/100] x 2116 nr / [1545 x (CT temp.(9 7.74 2,488,641 1,109 30.3 6.1)/100] x 2116.8 lb/ft2 x /hr / [1545 x (CT temp 1.4 1.52 7.74 2,488,641 1,109	6.8 lb/ft2 x Volume (°F) + 460°F) x 1 9 8.59 2,438,274 1,139 28.9 5.8 x Volume flow (ac 1.4 1.53 8.59 2,438,274 1,139	e flow (acfm) x 000,000 (adj. for pl 9 9.25 2,363,849 1,152 27.6 5.5 fm) x 1,000,000 (adj. for pl 1.4 1.54 9.25 2,363,849 1,152	pm)] 10.7 2,279,04 1,17 26 5 ppm)] 1 1.5 10.7 2,279,04 1,17 2.5
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h 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)	pisture(%)/100] x 2116 nr / [1545 x (CT temp.(7.74 2,488,641 1,109 30.3 6.1)/100] x 2116.8 lb/ft2 x /hr / [1545 x (CT temp 1.4 1.52 7.74 2,488,641 1,109 2.92	9 8.59 2,438,274 1,139 28.9 5.8 x Volume flow (ac 0.(°F) + 460°F) x 1 1.4 1.53 8.59 2,438,274 1,139 2.81	e flow (acfm) x 000,000 (adj. for pl 9 9.25 2,363,849 1,152 27.6 5.5 fm) x 1,000,000 (adj. for pl 1.4 1.54 9.25 2,363,849 1,152 2.70	pm)] 10.7 2,279,04 1,17 26 5 ppm)] 1 1.5 10.7 2,279,04 1,17 2.5
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h 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, ppmvw Basis, ppmvd Moisture (%) Turbine Flow (acfm) Turbine Flow (acfm) Turbine Exhaust Temperature (°F) Emission rate (lb/hr) (TPY) Lead (lb/hr)= NA	oisture(%)/100] x 2116 or / [1545 x (CT temp.6 7.74 2,488,641 1,109 30.3 6.1)/100] x 2116.8 lb/ft2 x /hr / [1545 x (CT temp.6 1.4 1.52 7.74 2,488,641 1,109 2.92 0.58	9 8.59 2,438,274 1,139 28.9 5.8 x Volume flow (ac 0.(°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 p) 9 9.25 2,363,849 1,152 27.6 5.5 fm) x 1,000,000 (adj. for i) 1.4 1.54 9.25 2,363,849 1,152 2.70 0.54	pm)] 10.1 2,279,04 1,17 26 5 ppm)] 1. 1.5 10.1 2,279,04 1,17 2.5 0.5
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Mo 28 (mole. wgt CO) x 60 min/h 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)	oisture(%)/100] x 2116 or / [1545 x (CT temp.6 7.74 2,488,641 1,109 30.3 6.1)/100] x 2116.8 lb/ft2 x /hr / [1545 x (CT temp.6 1.4 1.52 7.74 2,488,641 1,109 2.92 0.58	9 8.59 2,438,274 1,139 28.9 5.8 x Volume flow (ac 0.(°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 p) 9 9.25 2,363,849 1,152 27.6 5.5 fm) x 1,000,000 (adj. for i) 1.4 1.54 9.25 2,363,849 1,152 2.70 0.54	pm)] 10.1 2,279,04 1,17 26 5

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

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 Hvdro

Hydrogen-Cooled Generator

Combustion System 9/42 DLN Combustor

HORGOSO DEL

The News-Journal

Published Daily and Sunday V = D Daytona Beach, Volusia County, Florida AUG 06 2003

State of Florida, BUREAU OF AIR REGULATION **County of Volusia:**

Before the undersigned authority personally appeared

Kathleen Mayes

Who, on oath says that she is

Classified Sales Manager

of The News-Journal, a daily and Sunday newspape published at Daytona Beach in Volusia County, Florida that the attached copy of advertisement, being a **Public Notice**

in the matter of of Intent to Issue Air Constructio Permit Modification

in the

Court

was published in said newspaper in the issues July 31, 2003

Affiant further says that The News-Journal is newspaper published at Daytona Beach, in said Volusi County, Florida, and that the said newspaper ha heretofore been continuously published in said Volusia County, Florida, each day and Sunday and has been entered as second-class mail matter at the post office in Daytona Beach, in said Volusia County, Florida, for a period of one year next preceding the first publication o the attached copy of advertisement; and affiant furthe says that 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

31st

day of

July

Enta Marie



ANITA MARIE SAUNDERS Notary Public, State of Florida My Comm. Exp. Aug. 30, 2003 Comm. No. CC 867646

LEGAL ADVERTISEMENT

PUBLIC NOTICE OF INTENT
TO ISSUE AIR CONSTRUCTION
DEP File No. 1270009-009-AC
and PSD-F1-270C
Florida Power & Light
Sanford Plant
Peak Mode of Operation for the
2000 Megawatt Onturned
Combined Coult
The Department of Environmental Protection (Department) gives
notice of its intent to issue an air
construction permit modification
to Florida Power & Light Company
(FPL). The original permit issue of
installation of eight company
(FPL). The original permit issue of
installation of eight company
(FPL). The original permit issue of
security of the original permit issue of
installation of eight control (2) resecurity of the original permit issue of
security of the original project
(VOC emissions only) and is not
required for the original project
(VOC emissions only) and is not
required for this project pursuant
to Rule 8-212-400 in A Address are
Florida Power & Light, Sanford
Plant, 950 South Highway 17-92.
DeBary, Florida 32713.

The permit modification is to allow peak operation mode up to 400
hours per year for each of the eight
combined cycle combustion turbrines and 68 TPy for all eight turbines. Peaking is expected sturbines of this pollutant during the
permitting of the repowering proect, this project will for resease of
this pollutant during the
permitting of the repowering proect, this project will for resease of
this pollutant during the
permitting of the repowering proect, this project will for resease of
the pollutants. Therefore, an air
quality impact analysis was not retrap collutants. Therefore, an air
quality impact analysis was not retrap collutants. Therefore, an air
response received in accordance
with the following procedures results in a different decision or significant change of terms or
conditions

or officions of the proposed permit modification with
the attached conditions unless a
response received in accordance
with the following procedures remit Modification. Written
comments should be provided the
receive under Section of
Rody Section of the Department of the pub

of receipt of this notice of intent, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of fling. The failure of any person folie 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 trative 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; 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 aldisputed 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 rules or statutes the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of aldisputed issues of material fact. If there are none, the petition was statutes the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the agency supposed action; (f) A statement of the petitioner contends require reversal or modification of the agency's proposed action.

A petition that does not dispute th

pute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

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

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at: Florida Department of Environmental Protection Bureau of Air Regulation 111 S. Magnolia Drive, Suite 4 Tallahassee, Florida 32301 Telephone: 850/488-1344 Fax: 850/922-8979 Florida Department of Environmental Protection Central District Office 3319 Maguire Boulevard, Suite 232 Orlando, Florida 32803-3767 Telephone: 407/894-7555 Fax: 407/897-5963

The complete project file includes the application, technical evaluation, Draft Permit Modification, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-014, for additional information. The Department's technical evaluation and Draft Modification can be viewed at www.dep.state.fl.us/air/permitting.htm by clicking on Construction Permits. Legal L51744. July 31, 2003 1t.

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. 	A Received by (Please Print Clearly) B. Date of Delivery C. Signature Agent Agent D. Is delivery addyless different from the many addressee	
1. Article Addressed to: Ms. Roxane Kennedy Plant General Manager FPL - Sanford Plant	If YES, enter/delivery address below:	
950 South Highway 17-92 DeBary, FL 32713	3. Service Type Certified Mail	
	4. Restricted Delivery? (Extra Fee) Yes	
2. 7001, 0320 0001, 3692 5344 PS Form 3811, July 1999 Domestic Return Receipt 102595-99-M-1789		

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.	U.S. Postal Service CERTIFIED MAIL RECEIPT (Domestic Mail Only; No Insurance Coverage Provided)			
3 h h				
53	OFF	ICIAL	USE	
밁	Postage	\$		
36	Certified Fee	,	Postmark	
0007	Return Receipt Fee (Endorsement Required)		Here	
	Restricted Delivery Fee (Endorsement Required)			
0320	Total Postage & Fees	\$		
	Sent To			
7007	Roxane Kennedy Street, Apt. No.; oP5 ®× No. Hwy. 17-92			
70	City, State, ZIP+4 DeBary, F	·		
	PS Form 3800, January 20	001	See Reverse for Instructions	

COMPLETE THIS SECTION ON DELIVERY
A. Received by (Please Print Clearly) DALE G. DUKS C. Signature X. Addressee D. Is delivery address different address below. If YES, enter delivery address below. JUL 18 2003 3. Service Type A. Certified Mail Registered Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D. 4. Restricted Delivery? (Extra Feë) ☐ Yes
5 A D 102595-99-M-1789

	U.S. Postal Service CERTIFIED MAIL RECEIPT (Domestic Mail Only; No Insurance Coverage Provided)			
40				
5 5	OFF	ICIAL	USE	
먑	Postage	\$		
36	Certified Fee		Postmark	
1000	Return Receipt Fee (Endorsement Required)		Here	
	Restricted Delivery Fee (Endorsement Required)			
320	Total Postage & Fees	\$		
	Roxane Ke	ennedy		
7007		No.; NSouth Hwy. 17-92		
]{	City State, ZIP+4 De Bary, F	FL 32713		
	PS Form 3800, January 29	001	See Reverse for Instructions	