# Florida Department of **Environmental Protection**

TO:

Trina L. Vielhauer

THRU:

Jeff Koerner A. Linero

FROM:

Teresa Heron TH.

DATE:

June 27, 2003

SUBJECT:

Peaking Mode of Operation for the Six Combined Cycle Combustion Turbines

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

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

The application is for a permit modification to allow peak operation mode up to 400 hours per year for each of the existing six combined cycle turbines. Peaking is expected to increase short term NOx emissions from 9 to 15 ppmvd for each turbine and 51 TPY for all six turbines due to higher temperatures during this mode. However, due to the substantial emissions decrease of this pollutant during the permitting of the repowering project, this project will not result in a net increase of NO<sub>x</sub> emissions or any other criteria pollutants.

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

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

AAL/th

Attachments

#### P.E. CERTIFICATION STATEMENT

#### PERMITTEE

FPL Fort Myers Power Plant P.O. Box 430 Fort Myers, FL 33905 Draft Air Permit No. 0710002-014-AC Project: Peaking Mode Operation Emissions Units 018 - 023 Lee County, Florida

#### PROJECT DESCRIPTION

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

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

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

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

Jeffery F. Koerner, P.E.

Registration Number: 49441

(Date)



# Department of Environmental Protection

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

David B. Struhs Secretary

July 3, 2003

CERTIFIED MAIL - RETURN RECEIPT REQUESTED Mr. William Reichel, General Manager FPL Fort Myers Plant Post Office Box 430 Fort Myers, Florida 33905

Re: DEP File No. 0710002-014-AC

Combined Cycle Combustion Turbine Peaking Project

Dear Mr. Reichel:

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

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

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

Sincerely,

Trina L. Vielhauer, Chief, Bureau of Air Regulation

ing I Vielhauer

TLV/th

Enclosures

"More Protection, Less Process"

Printed on recycled paper.

In the Matter of an Application for Permit by:

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

#### INTENT TO ISSUE AIR CONSTRUCTION PERMIT

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

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

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

The Department intends to issue this air construction permit based on the belief that the applicant has provided reasonable assurances to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C.

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

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

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

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

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

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

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

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

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

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

DEP File 0710002-014-AC Page 3 of 3

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

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

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

Executed in Tallahassee, Florida.

Trina L. Vielhauer, Chief Bureau of Air Regulation

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#### CERTIFICATE OF SERVICE

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

Clerk Stamp

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

ictoria Liber July 3, 2003

# PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

#### STATE OF FLORIDA

#### DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. 0710002-014-AC

Florida Power & Light Fort Myers Plant

Peak Mode of Operation for the 1500 Megawatt Combined Cycle Combustion Turbines

Lee County

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

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

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

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

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

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

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

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

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

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

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

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

Fax: (850)922-6979

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

Fax: (941)332-6969

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

# TECHNICAL EVALUATION

# AND

# PRELIMINARY DETERMINATION

Florida Power & Light Company

Fort Myers Power Plant
Peak Mode of Operation
Lee County

DEP File No. 0710002-014-AC

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

June 27, 2003

## 1. APPLICATION INFORMATION

## 1.1 Applicant Name and Address

Florida Power & Light Company (FPL)

Fort Myers Power Plant

Post Office Box 430

Fort Myers, Florida 33905

Authorized Representative: William Reichel, Plant General Manager

# 1.2 Reviewing and Process Schedule

05-15-03: Date of Receipt of Application

05-15-03: Application completed

06-27-03: Intent Issued

# 2. FACILITY INFORMATION

### 2.1 Facility Location

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

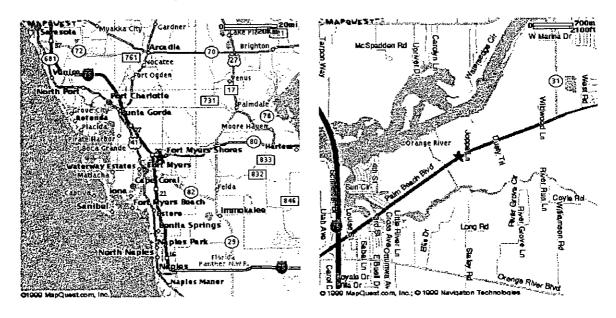


Figure 1 – Regional Location

Figure 2 - Location of Plant

# 2.2 Standard Industrial Classification Codes (SIC)

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

# 2.3 Facility Category

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

The facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>X</sub>), carbon monoxide (CO), or volatile organic compounds (VOC) exceeds 100 TPY.

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

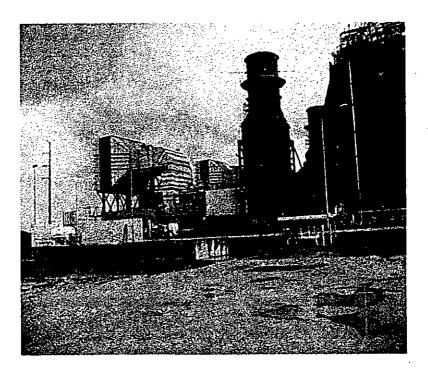


Figure 3 - View of the Combined Cycle Combustion Gas Turbines

## 3. PROJECT DESCRIPTION

This permit addresses the following emissions units:

| Emission Unit No.           | System | Emission Unit Description  |
|-----------------------------|--------|--|
| <b>ARMS</b> Units 018 – 023 |        | Six (6) Combined Cycle Combustion Turbine- Electrical Generators with Unfired Heat Recovery Steam Generators |

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

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

Emissions increases due to this project will occur. According to the application, estimated emissions for each turbine operating at capacity for 400 hours of peaking are 5.78 tons per year of CO, 1.02 TPY of SO<sub>2</sub>, 1.8 TPY of PM/PM<sub>10</sub>, 20.24 TPY of NO<sub>X</sub>, and 0.56 TPY of VOC.

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

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

## 4. RULE APPLICABILITY

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

This facility is located in Lee County; an area designated as attainment for all criteria pollutants in accordance with Rule 62-204.360, F.A.C. The proposed project is not subject to PSD review under Rule 62-212.400., F.A.C. for PM/PM<sub>10</sub>, CO, SO<sub>2</sub>, SAM and NO<sub>X</sub>. The reason, as discussed below, is that after considering all emissions changes from other contemporaneous projects (the repowering, the construction of two simple cycle turbines and

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

# 5. AIR POLLUTION CONTROL TECHNOLOGY

#### 5.1 Permit Limits

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

| Emission<br>Unit       | NO <sub>x</sub>                          | со                                       | voc       | PM/Visibility<br>(% Opacity) | Technology and Comments  |
|------------------------|--|--|-----------|------------------------------|--|
| Combustion<br>Turbines | 9 ppmvd (baseload)<br>15 ppmvd (peaking) | 12 ppmvd (baseload)<br>9 ppmvd (peaking) | 1.4 ppmvd | 10                           | Dry Low NO <sub>x</sub> Combustors<br>Natural Gas, Good Combustion |

Note:

# 6. SOURCE IMPACT ANALYSIS

#### 6.1 Emission Limitations

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

#### 6.2 Emission Summary and Contemporaneous Emission Evaluation

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

In 1998, the Department issued a minor source (net out of PSD review) construction permit for the 1500 MW repowering project. The potential emissions from this project are: PM/PM<sub>10</sub> 313 TPY; SAM 21 TPY; SO<sub>2</sub> 137 TPY; NOx 1845 TPY; CO 1207 TPY; and VOC 47 TPY.

In 1999, the Department issued another construction permit to allow the installation of foggers to the 12 existing simple cycle turbines. The potential emissions from this project are: PM/PM<sub>10</sub> 2 TPY; SO<sub>2</sub> 24 TPY; NOx 34 TPY; CO 2 TPY; and VOC 1 TPY.

In 2000, the Department issued another permit construction to allow the construction of two additional simple cycle GE Frame 7A combustion turbines. The potential emissions from this project are: PM/PM<sub>10</sub> 91 TPY; SAM 4 TPY; SO<sub>2</sub> 91 TPY; NOx 741 TPY; CO 280TPY; and VOC 26 TPY.

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

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

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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

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

#### CONTEMPORANEOUS CREDITABLE CHANGES EMISSIONS (TPY)

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

#### Notes:

## 6.3 Air Quality Analysis

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

### 7. CONCLUSION

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

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

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

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

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

# 7. <u>CONCLUSION</u>

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

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



# Department of **Environmental Protection**

leb Bush Governor

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

David B. Struhs Secretary

#### PERMITTEE:

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

Authorized Representative:

William Reichel Plant General Manager

Turbines Peak Mode of Operation ŚIC No. 4911

0710002-014-AC

Júl√1, 2004

1500 MW Combined Cycle

Expires:

Permit No

Project:

PROJECT AND LOCATION:

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

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

#### STATEMENT OF BASIS:

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

# CHED APPENDIX MADE A PART OF THIS PERMIT:

Appendix GC

General Conditions

(DRAFT)

Howard L. Rhodes, Director Division of Air Resources Management

# AIR CONSTRUCTION PERMIT 0710002-014-AC SPECIFIC CONDITIONS

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

## 4. Peaking Mode Operation:

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

| Emission Unit   | NO <sub>X</sub>            | CO       | VOC Q     | PM/Visibility<br>(% Opacity) | Technology and Comments            |
|-----------------|----------------------------|----------|-----------|------------------------------|------------------------------------|
| Combustion      | 15 ppmvd (24-hr block avg) | 9 ppmvd  | 1.4 ppmvd | 10                           | Dry Low NO <sub>X</sub> Combustors |
| Turbines (each) | 102 lb/hr                  | 29 lb/hr | 3 lb/hr   |                              | Natural Gas, Good Combustion       |

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

[Applicant Request, Rules 62-210:200 (Definitions-Potential Emissions), and 62-4.070(3), F.A.C.]

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

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

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

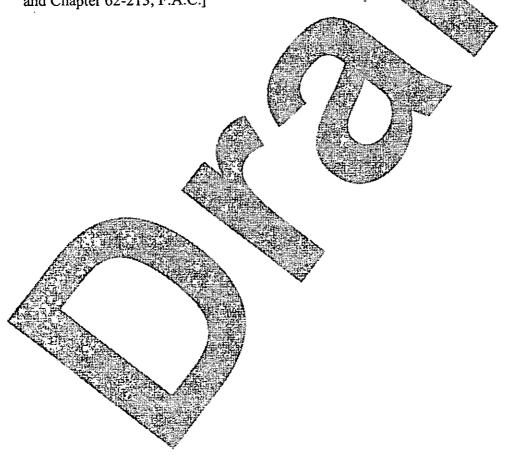
# AIR CONSTRUCTION PERMIT 0710002-014-AC SPECIFIC CONDITIONS

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

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

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

6. <u>Title V Permit</u>: This permit authorizes modification of the emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. [Rules 62-4-030, 62-4-050, 62-4-220, and Chapter 62-213, F.A.C.]



#### APPENDIX GC

#### **GENERAL CONDITIONS**

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

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

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

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

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

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

#### APPENDIX GC

#### GENERAL CONDITIONS

- 10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
- 11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- 12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
- 13. This permit also constitutes:
  - a. Determination of Best Available Control Technology (not applicable to project);
  - b. Determination of Prevention of Significant Deterioration (not applicable to project); and
  - c. Compliance with New Source Performance Standards.
- 14. The permittee shall comply with the following:
  - a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
  - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
  - c. Records of monitoring information shall include:
    - 1) The date, exact place, and time of sampling or measurements;
    - 2) The person responsible for performing the sampling or measurements;
    - 3) The dates analyses were performed;
    - 4) The person responsible for performing the analyses;
    - 5) The analytical techniques or methods used; and
    - 6) The results of such analyses.
- 15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

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

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