



# Department of Environmental Protection

Lawton Chiles  
Governor

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

Virginia B. Wetherell  
Secretary

## P.E. Certification Statement

**Permittee:**  
City of Tallahassee Utilities Services  
Purdom Generating Station

**DRAFT Permit No.** PSD-FL-239 / PA97-36  
**Facility ID No.:** 1290001

**Project type:** Construction of New Combustion Turbine and  
Heat Recovery Steam Generator  
Purdom Unit 8

*I HEREBY CERTIFY that the 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, and geological features).*

*Martin Costello* 7/1/97  
\_\_\_\_\_  
Martin Costello, P.E. Date  
Registration Number: 47587  
Professional Engineer II

Department of Environmental Protection  
Bureau of Air Regulation  
New Source Review Section  
111 South Magnolia Drive, Suite 4  
Tallahassee, Florida 32301  
Phone (904) 488-1344  
Fax (904) 922-6979

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

**PERMITTEE:**

**City of Tallahassee**  
**Purdom Generating Station**  
300 South Adams Street  
Tallahassee, FL 32301

<b>FID No.</b>	1290001
<b>PSD No.</b>	PSD-FL-239
<b>PPS No.</b>	PA97-36
<b>Expires:</b>	N/A

*Authorized Representative:*  
Jennette Curtis  
Environmental Administrator

**LOCATED AT:**

**City of Tallahassee**  
**Purdom Generating Station**

Project: Purdom Unit 8  
Standard Industrial Classification Code (SIC): 4911  
Wakulla County, Florida

UTM: Zone 16 ; 769.611 km E ; 3339.767 km N  
Directions: *On the north end of the City of St. Marks on SR 363, Wakulla County*

**STATEMENT OF BASIS:**

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

**Attached appendices and Tables made a part of this permit:**

Appendix BD	BACT Determination
Appendix GC	Construction Permit General Conditions

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Howard L. Rhodes, Director  
Division of Air Resources  
Management

# AIR CONSTRUCTION PERMIT PSD-FL-239 / PA97-36

## SECTION I. FACILITY INFORMATION

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### SUBSECTION A. FACILITY DESCRIPTION

~~The City of Tallahassee (COT) plans to install a new combined cycle combustion turbine system, Unit 8, at the existing Purdom facility consisting of a 160 MW (nominal rating) GE MS7231FA with DLN-2 dry low NO<sub>x</sub> burners (Unit 8) and a nonfired heat recovery steam generator (HRSG) with a nominal 90 MW steam turbine. The compressor inlet air will be conditioned by an evaporative cooler when needed. The turbine will be started using an electric motor. A new 200-foot stack and a cooling tower will be added to the facility for Unit 8.~~

~~Unit 8 will be located at the city's Sam O. Purdom Generating Station near St. Marks, in Wakulla county. Existing steam generating Units 5 and 6 will be permanently shut down once Unit 8 has completed the initial compliance test. Other existing units at the plant consist of Unit 7, pre-NSPS boiler with a nominal rating of 44 MW fired by natural gas, and cofired or fired alone with residual fuel oil or distillate fuel oil, two pre-NSPS distillate fuel oil or natural gas fired combustion turbines with a nominal rating of 12.5 MWs each (GT1 and GT2), and a Subpart Dc auxiliary steam boiler fired by natural gas.~~

*The City of Tallahassee plans to install a new combined cycle combustion turbine system, Unit 8, at the existing Purdom facility consisting of a 160 MW (nominal rating) GE MS7231FA combustion turbine with DLN-2 dry low NO<sub>x</sub> (gas) and water injection (diesel) burners (Unit 8) and a nonfired heat recovery steam generator (HRSG) with a nominal 90 MW steam turbine. The compressor inlet air will be conditioned by an evaporative cooler when needed. The turbine will be started using the generator and a static start system. A new 200 foot stack and a cooling tower will be added to the facility for Unit 8.*

*Unit 8 will be located at the City's Sam O. Purdom Generating Station in St. Marks, Wakulla County. Existing steam generating Units 5 and 6 will be permanently shut down once Unit 8 has completed the initial performance test. Other existing units at the plant consist of Unit 7, a pre-NSPS boiler with a nominal rating of 44 MW fired by natural gas, residual fuel oil or distillate fuel oil; two pre-NSPS distillate fuel oil or natural gas fired combustion turbines with a nominal rating of 12.3 MWs each (GT1 and GT2); and a Subpart Dc auxiliary steam boiler fired by natural gas.*

### SUBSECTION B. REGULATORY CLASSIFICATION

The Purdom Generating Station is classified as a major air pollutant emitting facility. Air pollutant emissions are over 100 TPY for nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO).

This facility is on the list of the 28 Major Facility Categories, Table 62-212.400-1. This facility is also classified as a Title V facility.

### SUBSECTION C. PERMIT SCHEDULE:

- 03-17-97: Date of Receipt of Application
- 04-21-97: Department's Preliminary ~~Ine~~Completeness ~~Letter~~ Memo
- ~~05-04-97:~~ PPS Department's ~~Ine~~Completeness ~~Letter~~ Memo sent
- ~~05-07-97:~~ Company's Response to Department's letter
- 05-07-97: Application deemed complete and sufficient by PPS Department

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City of Tallahassee  
Tallahassee, FL

Purdom Generating Station  
Facility ID No. 1290001

# AIR CONSTRUCTION PERMIT PSD-FL-239 / PA97-36

## SECTION I. FACILITY INFORMATION

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- 07-01-97: Intent Issued

### SUBSECTION D. RELEVANT DOCUMENTS:

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

Application

Department's letters dated 4/2+5/1/97

~~Company letters dated 5/7/97~~

Department of Interior's letters dated 1/21/97

[EPA's letter dated ...]

[Third party's letters dated ...]

## AIR CONSTRUCTION PERMIT PSD-FL-239 / PA97-36

### SECTION II. EMISSION UNIT(S) GENERAL REQUIREMENTS

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#### SUBSECTION A. ADMINISTRATIVE

- 1 Regulating Agencies: All documents related to applications for permits to operate, reports, tests, minor modifications and notifications or for permits to construct or modify an emission unit(s) *subject to the Prevention of Significant Deterioration (PSD) or to Nonattainment Areas (NA) Review requirements* should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP) located at 2600 Blairstone Road, Tallahassee, Florida 32399-2400 and phone number (850) 488-1344.
- 2 General Conditions: The owner and operator is subject to and shall operate under the attached General Permit Conditions G.1 through G.15 listed in *Appendix GC* of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [**Rule 62-4.160, F.A.C.**]
- 3 Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.
- 4 Forms and Application Procedures: The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. [**Rule 62-210.900, F.A.C.**]
- 5 Expiration: This air construction permit shall ~~not~~ expire *five years from the date of issuance*.

**SECTION III. SPECIFIC CONDITIONS**

**SUBSECTION A. SPECIFIC CONDITIONS:**

**A. General Operation Requirements**

Applicable Regulations: Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S and Florida Administrative Code Chapters 62-4, 62-103, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, 62-297; and the applicable requirements of the Code of Federal Regulations Section 40, Part 60 including Subpart A and GG (1997 version), adopted by reference in the Florida Administrative Code regulation [Rule 62-204.800 F.A.C.]. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. [Rule 62-210.300, F.A.C.]

1. The maximum heat input rates, based on the lower heating value (LHV) of each fuel to Purdom Unit 8 at ambient conditions of 95°F temperature, 60% relative humidity, and 14.7 psi pressure shall not exceed 1,467.7 mmBtu/hr when firing natural gas, nor 1,659.5 mmBtu/hr when firing No. 2 fuel oil. These maximum heat input rates will vary depending upon ambient conditions and the combustion turbine characteristics. Manufacturer's curves or equations for correction to other ambient conditions shall be provided to the Department of Environmental Protection (DEP) at least 90 days prior to initial compliance testing. These curves or equations shall be used to establish the maximum allowable heat inputs at other ambient conditions for compliance determinations.
2. Purdom Unit 8 may operate continuously (i.e., 8760 hours per year).
3. Only natural gas or No. 2 fuel oil with a maximum sulfur content of 0.05% by weight shall be fired in the combined cycle combustion turbine.
4. The permittee shall install duct module(s) suitable for possible future installation of ~~an oxidation catalyst and/or~~ SCR equipment on the combined cycle generating unit.
5. Dry low NO<sub>x</sub> combustors shall be used on Unit 8 when firing natural gas and water injection shall be used when firing No. 2 fuel oil for control of NO<sub>x</sub> emissions.
6. During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary.
7. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the Permitting Authority as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit and the regulations. [Rule 62-4.130, F.A.C.]
8. Operating Procedures: Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment. [Rule 62-4.070(3), F.A.C.]
9. The dry low NO<sub>x</sub> burner system shall be tuned upon initial operation to optimize emissions reductions and shall be maintained to minimize NO<sub>x</sub> emissions and CO emissions. ~~Operation of the unit when the dry low NO<sub>x</sub> burner system is in the diffusion firing mode shall be minimized.~~

**SECTION III. SPECIFIC CONDITIONS**

10. Circumvention: The owner or operator shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rules 62-210.650, F.A.C.]

**B. Emission Limits and Standards**

The following shall apply upon completion of the initial compliance tests:

1. Best Available Control Technology. The following is a summary of the BACT determinations by DEP:

**Table 1. Emission Limits**

Pollutant	Fuel	BACT Standard
NO <sub>x</sub>	Gas	12 ppmvd @ 15 % O <sub>2</sub> (a) (d)
	Oil	42 ppmvd @ 15 % O <sub>2</sub> (a) (b) (d)
SO <sub>2</sub>	Gas	Good combustion
	Oil	Good combustion of low (0.05%) sulfur fuel oil
PM/PM <sub>10</sub>	Gas	Good combustion
	Oil	Good combustion of low (0.05%) sulfur fuel oil
Visible Emissions	Gas	10 percent opacity
	Oil	10 percent opacity
CO	Gas	25 ppmvd (c)
	Oil	90 ppmvd (c)
(a) 30-day rolling average <i>excluding startup, shutdown, malfunction, and fuel switching</i> . (b) Plus an allowance for fuel bound nitrogen using the formula provided in Condition B4. (c) By testing concurrent to RATA testing or by 3 one hour runs of Method 10. (d) Not corrected to ISO conditions.		

2. Visible Emissions. Visible emissions shall not exceed 10 percent opacity when firing either natural gas or No. 2 fuel oil. Drift eliminators shall be installed on the cooling tower to reduce PM/PM<sub>10</sub> emissions.
3. Oxides of Nitrogen. Oxides of nitrogen emissions when firing natural gas shall not exceed 12 ppmvd at 15% O<sub>2</sub> on a 30-day rolling average basis (except during periods of startup, shutdown, malfunction or fuel switching), as measured by CEMS. When monitoring data is not available, substitution for missing data shall be handled as required by Title IV (40 CFR 75) to calculate of the 30 day rolling average.
4. Oxides of Nitrogen. Oxides of nitrogen emissions when firing No. 2 fuel oil shall not exceed 42 ppmvd at 15% O<sub>2</sub> on a 30-day rolling average basis (except during periods of startup, shutdown, malfunction or fuel switching), as measured by applicable compliance measures, when fuel bound nitrogen values are less than or equal to 0.015 percent. For higher fuel bound nitrogen values (up to 0.03 percent), oxides of nitrogen shall be limited by the following formula:

# AIR CONSTRUCTION PERMIT: PSD-FL-239 / PA97-36

## SECTION III. SPECIFIC CONDITIONS

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STD = 0.0042 + F where:

STD = allowable NO<sub>x</sub> emissions (percent by volume at 15 percent O<sub>2</sub> and on a dry basis).

F = NO<sub>x</sub> emission allowance for fuel-bound nitrogen defined by the following table:

<b>Fuel-Bound Nitrogen (% by Weight)</b>	<b>F (NO<sub>x</sub> % by Volume)</b>
0 < N ≤ 0.015	0
0.015 < N ≤ 0.03	0.04 (N-0.015)

where: N = the nitrogen content of the fuel (% by weight).

5. Oxides of Nitrogen. Annual emissions of NO<sub>x</sub> shall not exceed 467 tons per year from the Purdom facility (Unit 8, Unit 7, GT1, GT2, and the auxiliary boiler) on a calendar year basis, as measured by applicable compliance methods. [Requested by the applicant]
6. Sulfur Dioxide. Annual emissions of SO<sub>2</sub> shall not exceed 80 tons per year from the Purdom facility (Unit 8, Unit 7, GT1, GT2, and the auxiliary boiler) on a calendar year basis, as measured by applicable compliance methods. [Requested by the applicant]
7. Carbon Monoxide. Carbon monoxide emissions when firing natural gas shall not exceed 25 ppmvd as measured by Method 10.
8. Carbon Monoxide. Carbon monoxide emissions when firing No. 2 fuel oil shall not exceed 90 ppmvd as measured by Method 10.

### **C. Excess Emissions**

1. Excess emissions resulting from startup, shutdown, malfunction or fuel switching shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized but in no case exceed four hours in any 24-hour period for cold startup or two hours in any 24-hour period for other reasons unless specifically authorized by DEP for longer duration.
2. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited pursuant to Rule 62-210.700, F.A.C. In case of excess emissions resulting from malfunctions, the owner or operator shall notify Permitting Authority within one (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the problem; and the corrective actions being taken to prevent recurrence. [Rule 62-210.700(6), F.A.C.]
3. Excess Emissions Report: If excess emissions occur due to malfunction, the owner or operator shall notify the Permitting Authority within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Pursuant to the New Source Performance Standards, excess emissions shall also be reported in accordance with 40 CFR 60.7, Subpart A. [Rules 62-4.130 and 62-210.700(6), F.A.C.]

### **D. Compliance Determination**

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City of Tallahassee  
Tallahassee, FL

Purdom Generating Station  
Facility ID No. 1290001



# AIR CONSTRUCTION PERMIT: PSD-FL-239 / PA97-36

## SECTION III. SPECIFIC CONDITIONS

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1. Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate, *in each fuel*, at which this unit will be operated, but not later than 180 days of initial operation of the unit *for that fuel*, and annually thereafter as indicated in this permit, by using the following reference methods as described in 40 CFR 60, Appendix A (1997 version), and adopted by reference in Chapter 62-297, F.A.C.

Initial (I) compliance tests shall be performed on Unit 8 while firing each fuel (gas, oil). Annual (A) compliance tests shall be performed during every federal fiscal year (October 1 - September 30) pursuant to Rule 62-297.340, F.A.C., on Unit 8 as indicated. The following reference methods shall be used:

- Method 9 Visual Determination of the Opacity of Emissions from Stationary Sources (I, A); annual on oil if greater than 400 hours of oil firing; however, testing on gas is required only once every five years.

- Method 10 Determination of Carbon Monoxide Emissions from Stationary Sources (I, A). Testing may be conducted at less than capacity. Annual compliance testing may be conducted concurrent with the annual RATA testing required pursuant to 40 CFR 75 (*gas only*).

- Method 20 Determination of Oxides of Nitrogen and diluent emissions from Stationary Gas Turbines (I only, for compliance with 40 CFR 60 Subpart GG)

- 40 CFR 75 Determination of Oxides of Nitrogen emissions will be by a Continuous Emissions Monitoring System (CEMS). Compliance with the NO<sub>x</sub> emissions standards in Table 1 shall be demonstrated with this CEMS system based on a 30 day rolling average. Based on CEMS data ~~a separate compliance test is conducted~~ at the end of each operating day, and a new 30 day average emission rate is calculated from the arithmetic average of all valid hourly emission rates during the previous 30 operating days.

Note: No other methods may be used for compliance testing unless prior DEP approval is received in writing. The DEP may request a special compliance test pursuant to Rule 62-297.340(2), F.A.C., when, after investigation (such as complaints, increased visible emissions, or questionable maintenance of control equipment), there is reason to believe that any applicable emission standard is being violated.

2. Notwithstanding the requirements of Rule 62-297.340, F.A.C., the exclusive use of fuel oil with a maximum sulfur content limit of 0.05% or less, by weight, is the method for determining compliance for SO<sub>2</sub> and PM<sub>10</sub>. For the purposes of demonstrating compliance with 40 CFR 60.333 SO<sub>2</sub> emission limit and the 0.05% S limit, fuel oil analysis using ASTM D2880-71 or D4294 (or equivalent) for the sulfur content of liquid fuels and D1072-80, D3031-81, D4084-82 or D3246-81 (or equivalent) for sulfur content of gaseous fuel shall be utilized in accordance with an EPA approved custom fuel monitoring schedule. For the purposes of demonstrating compliance with the emissions caps (Conditions B5 and B6) ~~and for acid rain compliance purposes~~, natural gas and fuel oil supplier data for sulfur content may be submitted or the natural gas sulfur content referenced in 40 CFR 75 Appendix D may be utilized. However, the applicant is responsible for ensuring that the procedures above are used for determination of fuel sulfur content. Analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency pursuant to 40 CFR 60.335 (e) (1997 version).
3. An initial test for CO, concurrent with the initial NO<sub>x</sub> test, is required. The initial NO<sub>x</sub> and CO test results shall be the average of three valid one-hour runs. The DEP's Northwest District office shall be notified, in writing, at least 30 days prior to the initial compliance tests and at least 15 days before annual compliance test(s). Testing of emissions shall be conducted with the combustion turbine operating at permitted capacity. Permitted capacity is defined as 95-100 percent of the maximum heat input rate allowed by the permit, corrected for the average ambient

**SECTION III. SPECIFIC CONDITIONS**

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air temperature during the test (with 100 percent represented by a curve depicting heat input vs. ambient temperature). If it is impracticable to test at permitted capacity, the source may be tested at less than permitted capacity. In this case, subsequent operation is limited by adjusting the entire heat input vs. ambient temperature curve downward by an increment equal to the difference between the maximum permitted heat input (corrected for ambient temperature) and 105 percent of the value reached during the test until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity. Compliance test results shall be submitted to the DEP's Northwest District office no later than 45 days after completion of the last test run.

**E. Notification, Reporting and Recordkeeping**

1. All measurements, records, and other data required to be maintained by the City of Tallahassee shall be retained for at least five (5) years following the date on which such measurements, records, or data are recorded. These data shall be made available to the DEP representatives.
2. Emission Compliance Stack Test Reports: A test report indicating the results of the required compliance tests shall be filed with the Permitting Authority as soon as practical, but no later than 45 days after the last sampling run is completed. [Rule 62-297.310(8), F.A.C.]. The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8), F.A.C.

**F. Monitoring Requirements**

1. The permittee shall install, calibrate, maintain, and operate a continuous emission monitor in the stack to measure and record the nitrogen oxides emissions from this source. Thirty day rolling average periods when NO<sub>x</sub> emissions (ppmvd @ 15% oxygen) are above the BACT standards (12/42 ppmvd for gas/oil) shall be reported to the DEP Northwest District Office pursuant to General Condition #8. The continuous emission monitoring systems must comply with the certification and quality assurance, and other applicable requirements from 40 CFR 75. Periods of startup, shutdown, malfunction, and fuel switching shall be monitored, recorded, and reported as excess emissions following the format of 40 CFR 60.7 (1997 version). Subject to EPA approval, the NO<sub>x</sub> CEMS will be used in lieu of the water/fuel monitoring system and fuel bound nitrogen (FBN) monitoring, which are required in accordance with 40 CFR 60, Subpart GG (1997 version). Subject to EPA approval, the calibration of the water/fuel monitoring device required in 40 CFR 60.335 (c)(2) (1997 version) will be replaced by the 40 CFR 75 certification tests of the NO<sub>x</sub> CEMS.
2. The following custom monitoring schedule for No. 2 fuel oil is approved (pending EPA concurrence). For all bulk shipments of No. 2 fuel oil received at the Purdom Station, an analysis which reports the sulfur content and the fuel bound nitrogen content of the fuel shall be provided by the fuel vendor. The analysis shall also specify the methods by which the analyses were conducted and shall comply with the requirements of 40 CFR 60.335(d).
3. The following custom monitoring schedule for natural gas is approved (pending EPA concurrence) in lieu of the daily sampling requirements of 40 CFR 60.334 (b)(2).
  - a. Monitoring of natural gas nitrogen content shall not be required.
  - b. Analysis of the sulfur content of natural gas shall be conducted using one of the EPA-approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. Once

SECTION III. SPECIFIC CONDITIONS

Unit 8 becomes operational, monitoring of the sulfur content of the natural gas shall be conducted semiannually.

- c. Should any sulfur analysis indicate noncompliance with 40 CFR 60.333, the City shall notify DEP of such excess emissions and the customized fuel monitoring schedule shall be reexamined. The sulfur content of the natural gas will be monitored weekly during the interim period while the monitoring schedule is reexamined.
- d. The City shall notify DEP of any change in natural gas supply for reexamination of this monitoring schedule. A substantial change in natural gas quality (i.e., sulfur content variation of greater than 1 grain per 100 cubic foot of natural gas) shall be considered as a change in the natural gas supply. Sulfur content of the natural gas will be monitored weekly by the natural gas supplier during the interim period when this monitoring schedule is being reexamined.
- e. Records of sampling analysis and natural gas supply pertinent to this monitoring schedule shall be retained by the City for a period of five years, and shall be made available for inspection by the appropriate regulatory personnel.
- f. The City shall obtain the sulfur content of the natural gas ~~form~~from the fuel supplier (~~Florida Gas Transmission Company~~) provided the test methods listed in Specific Condition D2 are used.

4. Determination of Process Variables:

- (a) The permittee shall operate and maintain equipment and/or instruments necessary to determine process variables, such as process weight input or heat input, when such data is needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
- (b) Equipment and/or instruments used to directly or indirectly determine such process variables, including devices such as belt scales, weigh hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value. [Rule 62-297.310(5), F.A.C]

5. Compliance with the annual facility-wide NO<sub>x</sub> cap shall be determined by adding the annual NO<sub>x</sub> emissions in tons per year determined by the CEMS required by 40 CFR 75 for Unit 8 along with existing Unit 7 to annual NO<sub>x</sub> emissions calculated for existing GT1, GT2 and the auxiliary boiler determined by the following formulas:

**GT 1 & GT 2 NO<sub>x</sub>(natural gas)= (Fuel Usage )X (Heating Value of Natural Gas) X (0.44 lb/mmBtu) X units conversion factors**

Fuel usage shall be measured by fuel meter, recorded daily when unit is operated  
Heating value of natural gas will be determined from fuel supplier data  
0.44 lb/mmBtu = AP-42 emission factor

**GT 1 & GT 2 NO<sub>x</sub> (fuel oil)= (Fuel Usage )X (Heating Value of Fuel Oil) X (0.698 lb/mmBtu)**

Fuel usage shall be measured by fuel meter, recorded daily when unit is operated  
Heating Value of fuel oil will be determined from fuel supplier data  
0.698 lb/mmBtu = AP-42 emission factor

**SECTION III. SPECIFIC CONDITIONS**

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**Aux. Boiler NO<sub>x</sub>(natural gas)= (Fuel Usage )X (140 lb/mmCF)**

Fuel usage shall be measured by flow meter, recorded daily when unit is operated  
140 lb/mmCF = AP-42 emission factor

6. Compliance with the annual facility-wide SO<sub>2</sub> cap shall be determined by adding the annual SO<sub>2</sub> emissions in tons per year determined by the CEMS required by 40 CFR 75 for Unit 8 along with existing Unit 7 to annual SO<sub>2</sub> emissions calculated for existing GT1, GT2 and the auxiliary boiler determined by the following formulas:

**GT 1 & GT 2 SO<sub>2</sub> Emissions (natural gas)= (Fuel Usage ) X (Heating Value of Natural Gas) X (0.0006 lb/mmBtu)**

Fuel usage shall be measured by fuel meter, recorded daily when unit is operated  
Heating Value of natural gas from fuel supplier data  
Sulfur Content default of NADB = 0.0006 lb-SO<sub>2</sub>/mmBtu

**GT 1 & GT 2 SO<sub>2</sub> Emissions (fuel oil) = (Fuel Usage ) X (% Sulfur Content of oil) X (Molecular weight SO<sub>2</sub> / Molecular weight of S) X (Conversion factor)**

Fuel usage shall be measured by fuel meter, recorded daily when unit is operated  
% Sulfur will be determined from fuel oil analysis each time fuel is delivered (*i.e.*, 0.05% S = 0.0005)  
Molecular weight of SO<sub>2</sub> = 64  
Molecular weight of S = 32  
Conversion factor of 95% = 0.95

**Aux. Boiler SO<sub>2</sub> Emissions (natural gas)= (Fuel Usage ) X (Heating Value-Rate of Natural Gas) X (0.0006 lb/mmBtu)**

Fuel usage shall be measured by Fuel Meter, Recorded Daily when unit is operated  
Heating Value of Natural Gas from fuel supplier data  
Sulfur Content default of NADB = 0.0006 lb/mmBtu

**G. Rule Requirements**

- ~~1. The emission unit shall be in compliance with all applicable provisions of Chapter 403, F.S., and Chapters 62-4, 210, 212, 275, 296 and 297, F.A.C., except as otherwise specified herein.~~
21. The emission unit shall be in compliance with all applicable requirements of 40 CFR 60, Subpart A, Appendix A and Appendix B (1997 version), Subpart GG - Standards of Performance for Stationary Gas Turbines (1997 version), and Rule 62-204.800 (7) (b) 38, F.A.C., except as otherwise specified herein. The Subpart GG requirement to correct test data to ISO conditions applies. However, such correction is not used for compliance determinations with the BACT standard(s). All notifications and reports required by this specific condition shall be submitted to the DEP's Northwest District office.
32. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements and regulations (Rule 62-210.300(1), F.A.C.).

## AIR CONSTRUCTION PERMIT: PSD-FL-239 / PA97-36

### SECTION III. SPECIFIC CONDITIONS

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43. Except as otherwise specified herein, the emission unit shall be in compliance with all applicable provisions of Rule 62-210.650, F.A.C.: Circumvention; Rule 62-210.700, F.A.C.: Excess Emissions; Rule 62-204.800 (7) (b) 38, F.A.C.: Standards of Performance for New Stationary Sources (NSPS); Chapter 62-297, F.A.C.: Stationary Sources - Emissions Monitoring; and, Rule 62-4.130, F.A.C.: Plant Operation - Problems.
54. If construction does not commence within 18 months of issuance of this permit, the permittee shall obtain from the DEP's Bureau of Air Regulation a review and, if necessary a modification of the BACT determination and allowable emissions (40 CFR 52.21(r)(2) (1997 version)).
65. Quarterly excess emission reports, in accordance with 40 CFR 60.7 (7) (c) (1997 version), shall be submitted to the DEP's Northwest District office.
76. Pursuant to Rule 62-210.370(2), F.A.C., Annual Operation Reports, the permittee is required to submit annual reports on the actual operating rates and emissions from this facility. Annual operating reports shall be sent to the DEP's Northwest District office by March 1st of each calendar year.
87. Stack sampling facilities shall be installed in accordance with Rule 62-297.310(6), F.A.C.
98. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (Rule 62-4.090, F.A.C.).

#### **H. Modifications**

1. The permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change.