

Department of Environmental Protection

Jeb Bush
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

David B. Struhs
Secretary

March 6, 2001

Paul Crimi
Asset Manager, Hines Energy Complex
Florida Power Corporation
263 13th Avenue South
St. Petersburg, Florida 33701-5511

Re: PROPOSED Title V Permit No.: 1050234-001-AV
Hines Energy Complex

Dear Mr. Crimi:

One copy of the "PROPOSED PERMIT DETERMINATION" for the Hines Energy Complex located at 7700 County Road 555, Bartow, Polk County, is enclosed. This letter is only a courtesy to inform you that the DRAFT permit has become a PROPOSED permit.

An electronic version of this determination has been posted on the Division of Air Resources Management's world wide web site for the United States Environmental Protection Agency (USEPA) Region 4 office's review. The web site address is <http://www2.dep.state.fl.us/air>.

Pursuant to Section 403.0872(6), Florida Statutes, if no objection to the PROPOSED permit is made by the USEPA within 45 days, the PROPOSED permit will become a FINAL permit no later than 55 days after the date on which the PROPOSED permit was mailed (posted) to USEPA. If USEPA has an objection to the PROPOSED permit, the FINAL permit will not be issued until the permitting authority receives written notice that the objection is resolved or withdrawn.

If you should have any questions, please contact Russell Wider at 850/921-9585.

Sincerely,

C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/sms/raw

Enclosures

Letter from Mr. Scott Osbourn, dated February 9, 2000 and received February 10, 2000.
Letter from Mr. Paul Crimi, dated October 25, 2000 and received October 26, 2000.
PROPOSED Title V Air Operation Permit No.: 1050234-001-AV.

copy furnished to:

Mr. Mike Kennedy, Florida Power Corporation
Ms. Jennifer Stenger, P.E. Florida Power Corporation
Mr. Bill Thomas, P.E., FDEP, SWD
USEPA, Region 4 (INTERNET E-mail Memorandum)

cc: Russell Wider
Reading File

Mailed on 3/21/01
(Posted on 3/19/01)

"More Protection, Less Process"

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PROPOSED PERMIT DETERMINATION

Florida Power Corporation

Hines Energy Complex

PROPOSED Permit No.: 1050234-001-AV

I. Public Notice.

An "INTENT TO ISSUE TITLE V AIR OPERATION PERMIT" to Florida Power Corporation for the Hines Energy Complex located at 7700 County Road 555, Bartow, Polk County was clerked on December 1, 1999. The "PUBLIC NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT" was published in the Lakeland Ledger on December 15, 1999. The DRAFT Title V Air Operation Permit was available for public inspection at the Department of Environmental Protection's Southwest District Office in Tampa and the permitting authority's office in Tallahassee. Proof of publication of the "PUBLIC NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT" was received on January 3, 2000.

II. Public Comment(s).

Comments were received and the DRAFT Title V Operation Permit was changed. The comments were not considered significant enough to reissue the DRAFT Title V Permit and require another Public Notice. Listed below is each comment letter in the chronological order of receipt and a response to each comment in the order that the comment was received. The comment(s) will not be restated. Where duplicative comments exist, the original response is referenced.

A. Letter from Mr. Scott Osbourn dated, February 9, 2000 and received on February 10, 2000.

1. Placard Page.

- a. The Department acknowledges the comment and will change the Referenced attachments made a part of this permit as follows:

From:

Appendix G-1, Graph

Phase II Acid Rain Application/Compliance Plan dated 07/03/98

To:

Appendix G-1, Graph.....

Appendix T-1, Table of NO_x (lb/hr) vs. Inlet Temperature

Appendix D-1, Description of Start-up Sequence for a Two-on-One Configuration.....

- b. The Department acknowledges the comment and amends the permit by the addition of the most recent version of Appendix G-1, that was contained in permit revision dated May 27, 1999 (DEP File No. 1050234-002-AC, PSD-GL-195A), as well as the addition of the other two necessary references: T-1, Table of NO_x (lb/hr) vs. Inlet Temperature, and Appendix D-1, Description of Start-up Sequence for a Two-on-One Configuration.

2. Section I, Subsection A.

Facility Description. The Department agrees with the comment and will change the description as follows:

From:

This facility consists of two combined cycle Combustion Turbines (CT) with Heat Recovery Steam Generators (HRSG); one Steam Boiler; a diesel generator and a fuel oil storage tank. Power Block 1 consists of two combined cycle combustion turbines for a total of 500 MW, a 99 MMBtu/hr auxiliary boiler, a 1,300 KW diesel generator and a 97,570 barrel fuel oil storage tank. Emissions from the CT's and the Steam Boiler are vented through a single stack. Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

To:

Power Block 1 consists of two combined cycle combustion turbines with heat recovery steam generators (HRSGs), for a nominal total of 500 MWs; a 99 MMBtu/hr auxiliary boiler, a 1,300 KW diesel generator and a 97,570 barrel fuel oil storage tank. Emissions from each CT and HRSG combination are vented through a single stack. Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

3. Section III, Subsection A.

Description. The Department agrees with the comment and will modify the description as follows:

From:

Emission units 001 and 002 consist of two combined cycle Westinghouse 501F Combustion Turbines, each with a generator rating of 170 megawatts (MW) and a maximum heat input rating of 1,866 mmBtu/hr (LHV).

To:

Emission units 001 and 002 each consist of a combined cycle Westinghouse 501F Combustion Turbine, each with a nominal generator rating of 170 MW and a maximum heat input rating of 1,866 mmBtu/hr (LHV) while firing natural gas and 1,999 MMBtu/hr (LHV) while firing fuel oil.

4. Condition A.1. The Department agrees with the comment and will change the condition as follows:

From:

Permitted Capacity. At an ambient temperature of 59 °F, each combustion turbine shall not exceed 1,866 MMBtu/hr while firing natural gas, or 1,999 MMBtu/hr while firing fuel oil. See Attachment G-1 for a plot of heat input versus temperature.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and PSD-FL-195(A)]

To:

Permitted Capacity. At an ambient temperature of 59 °F, each combustion turbine shall not exceed 1,866 MMBtu/hr (LHV) while firing natural gas, or 1,999 MMBtu/hr (LHV) while firing fuel oil. See Attachment G-1 for a plot of heat input versus temperature.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and PSD-FL-195(A)]

{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100

percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability.} [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

5. Condition A.3. The Department acknowledges the comment and will adjust the condition as follows:

From:

Only natural gas, having a maximum sulfur content of 1 grain per 100 cf of natural gas, or low sulfur fuel oil having a maximum sulfur content of 0.5%, by weight, shall be fired in each combustion turbine at all times.

To:

Only natural gas, having a maximum sulfur content of 1 grain per 100 cf of natural gas, or low sulfur fuel oil having a maximum sulfur content of 0.05%, by weight, shall be fired in each combustion turbine at all times.

6. Condition A.5(a). The Department agrees with the comment and will revise the condition to read as follows:

From:

Manufacturer's curves for the NO_x emission rate correction to other temperatures at different loads shall be provided to DEP for review 90 days after selection of the CT. Subject to approval by the Department for technical validity applying sound engineering principles, the manufacturer's curves shall be used to establish pollutant emission rates over a range of temperatures for the purpose of compliance determination.

To:

Manufacturer's curves for the NO_x emission rate correction to other temperatures at different loads were provided to the DEP for review and are now a part of this permit (Appendix G-1). The manufacturer's curves shall be used to establish pollutant emission rates over a range of temperatures for the purpose of compliance determination.

7. Page 9, footnote "g" to the emission limit table. The Department agrees with the request and all language after the first sentence will be stricken from the permit as follows:

From:

The values are the computational basis for the lb/hr numbers, which are the actual emission limitations. Once a combustion turbine manufacturer has been selected, it may be necessary to modify this basis. If this basis is to be modified, a professional engineer-certified equivalency analysis by the manufacturer must be submitted to the Department. The equivalency analysis will recommend an emissions normalizing basis (i.e., lb/hr, lb/MMBtu, lb/MWh, or ppmvd) and associated emissions appropriate for the specific manufacturer's equipment. If the equivalency analysis demonstrates an impact equal to or less than the current lb/hr limit, the Department shall amend the conditions to reflect the alternate basis. The characteristics and parameters of the CT selected will be reflected in other permit conditions, where appropriate.

To:

The values are the computational basis for the lb/hr numbers, which are the actual emission limitations.

8. Page 10, footnote "i". See Section B. response 1.c.

9. Excess Emissions. Condition A.7. The Department agrees with the comment and will change the condition as follows:

From:

During a cold start-up to combined cycle operation, up to four hours of excess emissions are allowed in a 24-hour period. Cold start-up is defined as a start-up to combined cycle operation, up to three hours of excess emissions are allowed in a 24-hour period. Warm start-up is defined as a startup to combined cycle operation following a steam turbine shutdown lasting at least 8 hours.

To:

During a cold start-up to combined cycle operation, up to four hours of excess emissions are allowed in a 24-hour period. Cold start-up is defined as a start-up to combined cycle operation following a steam turbine shutdown of greater than 48 hours. During a warm start-up to combined cycle operation, up to three hours of excess emissions are allowed in a 24-hour period. Warm start-up is defined as a startup to combined cycle operation following a steam turbine shutdown of greater than 8 hours and less than 48 hours.

10. Condition A.9. The Department agrees with the comment and the condition is changed as follows:

From:

For each combined cycle unit, the permittee shall install, operate, and maintain a continuous emission monitoring system (CEMS) (in accordance with 40 CFR 60, Appendix F or 40 CFR 75) or use other DEP approved alternate methods to monitor nitrogen oxides and, if necessary, a diluent gas (CO₂ or O₂). The Federal Acid Rain Program requirements of 40 CFR 75 shall apply when those requirements become effective for the CTs.

1. Each CEMS shall meet performance specifications of 40 CFR 60, Appendix B or 40 CFR 75.
2. CEMS data shall be recorded and reported in accordance with Chapter 40 CFR 60 Appendix A and Subpart GG and 40 CFR 75. The record shall include periods of start up, shutdown, and malfunction. Compliance with condition A.5. for NO_x shall be determined by CEMS on a mass emission rate basis (LB/HR) using EPA Method 19 and hourly averaged heat inputs (MMBtu/hr).
3. A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.
4. The procedures under 40 CFR 60.13 and 40 CFR 75 shall be followed for installation, evaluation, and operation of all CEMS.
5. For purposes of the reports required under this permit, excess emissions are defined as any calculated average emission rate, as determined pursuant to condition A.7. herein, which exceeds the applicable emission limits in condition A.5.

To:

For each combined cycle unit, the permittee shall install, operate, and maintain a continuous emission monitoring system (CEMS) (in accordance with 40 CFR 60, Appendix F or 40 CFR 75, whichever is more stringent) or use other DEP approved alternate methods to monitor nitrogen oxides and, if necessary, a diluent gas (CO₂ or O₂). The Federal Acid Rain Program requirements of 40 CFR 75 shall apply when those requirements become effective for the CTs.

1. Each CEMS shall meet performance specifications of 40 CFR 60, Appendix B or 40 CFR 75, whichever is more stringent.
 2. CEMS data shall be recorded and reported in accordance with Chapter 40 CFR 60 Appendix A and Subpart GG or 40 CFR 75, whichever is more stringent. The record shall include periods of start up, shutdown, and malfunction. Compliance with condition A.5. for NO_x shall be determined by CEMS on a mass emission rate basis (LB/HR) using EPA Method 19 and hourly averaged heat inputs (MMBtu/hr).
 3. A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.
 4. The procedures under 40 CFR 60.13 or 40 CFR 75, whichever is more stringent, shall be followed for installation, evaluation, and operation of all CEMS.
 5. For purposes of the reports required under this permit, excess emissions are defined as any calculated average emission rate, as determined pursuant to condition A.7. herein, which exceeds the applicable emission limits in condition A.5.
11. Condition A.11. The Department has submitted the request and upon approval the condition will be changed as follows:

From:

A custom fuel monitoring schedule pursuant to 40 CFR 75 Appendix D for natural gas may be used in lieu of the daily sampling requirements of 40 CFR 60.334 (b)(2) provided the following requirements are met:

1. The permittee shall submit a monitoring plan, certified by signature of the Designated Representative (DR), that commits to using a primary fuel of pipeline supplied natural gas (sulfur content less than 20 gr/100 scf pursuant to 40 CFR 75.11(d)(2)).
2. Each unit shall be monitored for SO₂ emissions using methods consistent with the requirements of 40 CFR 75 and certified by the USEPA.

This custom fuel monitoring schedule will only be valid when pipeline natural gas is used as a primary fuel. If the primary fuel for these units is changed to a higher sulfur fuel, SO₂ emissions must be accounted for as required pursuant to 40 CFR 75.11(d).

[40 CFR 60.334]

To:

The permittee shall monitor sulfur content and nitrogen content of the new No. 2 distillate fuel oil and sulfur content of natural gas. These values may be provided by the vendor and the frequency of determinations of these values shall be as follows:

a. New No. 2 Distillate Fuel Oil. The values, sulfur and nitrogen content, shall be determined on each occasion that fuel is transferred to the storage tanks from any other source. Records of these values shall be kept by the facility for a five year period for regulatory agency inspection purposes.

b. Natural Gas. Pursuant to 40 CFR 60.334(b)(2), a custom fuel monitoring schedule for the determination of these values shall be followed for the natural gas fired at this facility and shall be as follows:

Custom Fuel Monitoring Schedule for Natural Gas (NG)

1. Monitoring of fuel nitrogen content shall not be required if NG is the only fuel being fired in the gas turbines.

2. Sulfur Monitoring:

(a). Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are ASTM D1072-80, ASTM D3031-81, ASTM D3246-81, and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2), or the latest edition(s).

(b). This custom fuel monitoring schedule shall become effective on the date this permit becomes valid. Effective the date of this custom schedule, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333 and the conditions of this permit, then sulfur monitoring shall be conducted once per quarter for six quarters. If monitoring data is provided by the applicant which demonstrates consistent compliance with the requirements herein the applicant may begin monitoring as per the requirements of 2(c).

(c). If after the monitoring required in item 2(b) above, or herein, the sulfur content of the fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333 and the conditions of this permit, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.

(d). Should any sulfur analysis as required in items 2(b) or 2(c) above indicate non-compliance with 40 CFR 60.333 and the conditions of this permit, the owner or operator shall notify the Department of such excess emissions and the custom schedule shall be re-examined by the Environmental Protection Agency. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.

3. If there is a change in fuel supply, the owner or operator must notify the Department of such change for re-examination of this custom schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.

4. Records of sample analysis and fuel supply pertinent to this custom schedule shall be retained for a period of five years, and be available for inspection by personnel of federal, state, and local air pollution control agencies.

[40 CFR 60.334(b); PSD-FL-195A; and Custom Fuel Monitoring Schedule approved on June 1, 2000.]

12. Monitoring of Operations and Test Methods and Procedures.

a. The Department agrees with the comment and will change the condition for Tests Required, as follows:

From:

A.10. Annual Tests Required- PM, VE, and CO. Except as provided in specific conditions **A.17.** , **A.18.** and **E.3.** of this permit, emission testing for particulate matter emissions, visible emissions, and carbon monoxide emissions shall be performed annually.
[Rules 62-4.070(3), 62-213.440, and 62-297.310(7), F.A.C.]

To:

A.10. Tests Required

a. PM, VE, and CO. Except as provided in specific conditions **A.17.** , **A.18.** and **E.3.** of this permit, emission testing for particulate matter emissions, visible emissions, and carbon monoxide emissions shall be performed annually.

b. Volatile Organic Compounds. The initial test requirement for VOC's was satisfied.
[Rules 62-4.070(3), 62-213.440, and 62-297.310(7), F.A.C.]

b. The Department agrees that language should be included to specify appropriate test methods for measuring VOC's. As such, the Department will introduce the following change:

From:

A.16. Carbon Monoxide. The test method for carbon monoxide shall be EPA Method 10.
[PSD-FL-195A]

To:

A.16. a. Carbon Monoxide. The test method for carbon monoxide shall be EPA Method 10.

b. Volatile Organic Compounds. The test method for VOC's shall be EPA Method 18 or Method 25A.
[PSD-FL-195A]

13. Condition A.13. The Department agrees with the comment and will change the condition as follows:

From:

The test methods for particulate emissions shall be EPA Method 5 incorporated by reference in Chapter 62-297, F.A.C.

To:

The test methods for particulate emissions shall be either EPA Method 5 or Method 17 incorporated by reference in Chapter 62-297, F.A.C.

14. Condition A.18. The Department agrees with the comment and will revise the condition as follows:

From:

Annual emissions compliance testing for particulate matter emissions, carbon monoxide emissions, and visible emissions is not required for these emission units while burning only liquid fuels for less than 400 hours per year.

To:

Annual emissions compliance testing for particulate matter emissions, carbon monoxide emissions, and visible emissions shall be performed for oil and only if fuel oil is fired more than 400 hours for the emission unit in the previous federal fiscal year.

15. Condition A.22. The Department agrees that the condition could be made clearer. The condition will be adjusted as follows:

From:

To determine compliance with the natural gas and fuel oil firing heat input limitation, the permittee shall maintain daily records of natural gas and fuel oil consumption for each turbine and the heating value for each fuel. All records shall be maintained for a minimum of two years after the date of each record and shall be made available to representatives of the Department upon request.

To:

To determine compliance with the natural gas and fuel oil firing heat input limitation, the permittee shall maintain daily records of natural gas and fuel oil consumption for each turbine; as well as recent records of the heating value for each fuel. All records shall be maintained for a minimum of five years after the date of each record and shall be made available to representatives of the Department upon request.

16. Condition A.24. The Department acknowledges the request and will change the condition as follows:

From:

.....the unit(s) on which construction has not commenced.
[40 CFR 52.21(r)(2)]

To:

.....the unit(s) on which construction has not commenced.
[PSD-FL-195A]

17. Condition A.2. of the Acid Rain Permit. The Department agrees with the comment and will delete the reference to NO_x in the Acid Rain Permit as follows:

From:

<u>E.U. ID No.</u>	<u>EPA ID</u>	<u>Year</u>	2001	2002	2003	2004	2005
-001	1A	SO ₂ allowances, under Table 2 or 3 of 40 CFR Part 73	0*	0*	0*	0*	0*
-002	1B	SO ₂ allowances, under Table 2 or 3 of 40 CFR Part 73	0*	0*	0*	0*	0*
		NO _x limit	**	**	**	**	**

*The number of allowances held by an Acid Rain source in a unit account may differ from the number allocated by the USEPA under Table 2 or 3 of 40 CFR 73.

To:

<u>E.U. ID No.</u>	<u>EPA ID</u>	<u>Year</u>	2002	2003	2004	2005	2006
-001	1A	SO ₂ allowances, under Table 2 or 3 of 40 CFR Part 73	0*	0*	0*	0*	0*
-002	1B	SO ₂ allowances, under Table 2 or 3 of 40 CFR Part 73	0*	0*	0*	0*	0*

*The number of allowances held by an Acid Rain source in a unit account may differ from the number allocated by the USEPA under Table 2 or 3 of 40 CFR 73.

18. Appendix I-1. The Department agrees with the comment and will delete item 7 in Appendix I-1 as follows:

From:

.....
Brief Description of Emissions Units and/or Activities

7. Internal combustion engines in boats, aircraft and vehicles used for transportation of passengers or freight.

To:

.....
Brief Description of Emissions Units and/or Activities

19. Table 1-1. The Department agrees with the comment and the sulfur content has been changed from 0.5% to 0.05%, as well as the changing of the term "standards" to "basis".

20. Table 2-1. The Department agrees with the comment and the following changes will be made to the permit:

From:

E.U. CT - 001&002						
NO _x	Gas	EPA Meth. 20	Initial			A.20
	Oil	EPA Meth. 20				A.20
SO ₂	Oil	F.O. Analysis ¹	Per Delivery ²		Power Output	A.11, A.12, A.15 & A.20
VE	Gas/Oil	EPA Meth. 9	Annual			A.14, A.17, & A.18
PM	Oil	EPA Meth. 5	Annual			A.13, A.18, & A.20
CO	Gas/Oil	EPA-Meth. 10	Annual			A.16, A.20

To:

E.U. CT - 001&002						
NO _x	Gas	EPA Meth. 20	Initial			A.20
	Oil	EPA Meth. 20				A.20
SO ₂	Oil	F.O. Analysis ¹	Per Delivery ²			A.11, A.12, A.15 & A.20
	Gas	Custom Fuel Monitoring ³	Per Delivery ²			A.11, A.12, A.15 & A.20
VE	Gas/Oil	EPA Meth. 9	Annual			A.14, A.17, & A.18
PM	Oil	EPA Meth. 5	Annual			A.13, A.18, & A.20
CO	Gas/Oil	EPA Meth. 10	Annual			A.16, A.20

where 3 refers to the custom fuel monitoring schedule in specific condition A.11.

B. Letter from Mr. Paul Crimi dated October 25, 2000, and received October 26, 2000.

1. The applicant requested that the changes from the modification of the air construction permit be incorporated into the Title V permit. The Department agrees and have made the following changes:

a. Changed rule justifications for specific conditions containing PSD-FL-195A to PSD-FL-195B.

b. The maximum heat input ratings for both natural gas and fuel oil were changed from 1,866 mmBtu/hr (LHV) and 1,999 mmBtu/hr (LHV) to 1,915 mmBtu/hr (LHV) and 2,020 mmBtu/hr (LHV), at an ambient temperature of 59 °F, respectively. This comment affects specific condition A.1. and the description of emission units 001 and 002 in Subsection A. As well, Appendix G-1 and T-1 have been changed to their latest revisions.

c. Page 10, footnote "i". The date by which dry low NO_x burners were to be installed, November 1, 2000, has expired and currently, a proposal to extend that date was denied. Footnote "i" will be changed as follows:

From:

Control of nitrogen oxides from each CT while firing natural gas shall be accomplished using dry low NO_x burners (DLN) and SCR. Ammonia slip shall not exceed 10 ppm. If the Westinghouse Piloted Ring Combustor (PRC) or a more advanced DLN burner is developed which is able to comply with the emission limits (listed in the above table) and is installed by November 1, 2000 the SCR system may be removed and replaced with these new burners upon 30 days prior notice to DEP.

This action would implement the original BACT for NO_x and would not be subject to PSD review. This notice shall include information on the new burners which provides reasonable assurance and PE certification that these DLN burners can consistently meet the BACT emission limits.

To:

Control of nitrogen oxides from each CT while firing natural gas shall be accomplished using dry low NO_x burners (DLN) and SCR. Ammonia slip shall not exceed 10 ppm.

C. Document(s) on file with the permitting authority:

- Letter received December 15, 1999 from Mr. W. Jeffrey Pardue.
- Letter received January 3, 2000, from Mr. Scott Osbourn.
- Letter received January 31, 2000 from Mr. W. Jeffrey Pardue.
- Letter received February 10, 2000, from Mr. Scott Osbourn.
- Letter received March 2, 2000, from Mr. W. Jeffrey Pardue.
- Letter received October 26, 2000 from Mr. Paul Crimi.

III. Conclusion.

The enclosed PROPOSED Title V Air Operation Permit includes the aforementioned changes to the DRAFT Title V Air Operation Permit.

The permitting authority will issue the PROPOSED Permit No. 1050234-001-AV, with the changes noted above.

Florida Power Corporation
Hines Energy Complex
Facility ID No.: 1050234
Polk County

Initial Title V Air Operation Permit
PROPOSED Permit No.: 1050234-001-AV

Permitting Authority:

State of Florida
Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation
Title V Section

Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Telephone: 850/488-1344
Fax: 850/922-6979

Compliance Authority:

Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, FL 33619-8218
Telephone: 813/744-6100
Fax: 813/744-6084

Initial Title V Air Operation Permit
PROPOSED Permit No.: 1050234-001-AV

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Permittee:
Florida Power Corporation
263 13th Avenue South
St. Petersburg, Florida 33701-5511

PROPOSED Permit No.: 1050234-001-AV
Facility ID No.: 1050234
SIC Nos.: 49, 4911
Project: Initial Title V Air Operation Permit

This permit is for the operation of the Hines Energy Complex. This facility is located at 7700 County Road 555; 2.5 miles South of County Road 640, Bartow, Polk County; UTM Coordinates: Zone 17, 414.4 km East and 3073.9 km North; Latitude: 27° 47' 19" North and Longitude: 81° 52' 10" West.

STATEMENT OF BASIS: This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, and 62-214. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:

Appendix G-1, Heat Input Curve
Appendix T-1, Table of NO_x (lb/hr) vs. Inlet Temperature
Appendix D-1, Description of Start-up Sequence for a Two-on-One Configuration
Appendix U-1, List of Unregulated Emissions Units and/or Activities
Appendix I-1, List of Insignificant Emissions Units and/or Activities
Appendix TV-3, Title V Conditions version dated 04/30/99
Appendix SS-1, Stack Sampling Facilities version dated 10/07/96
Table 297.310-1, Calibration Schedule version dated 10/07/96
Figure 1 - Summary Report-Gaseous And Opacity Excess
Emission And Monitoring System Performance Report version dated 10/07/96
Alternate Sampling Procedure: ASP Number 97-B-01
Phase II Acid Rain Application/Compliance Plan dated 07/03/98

Effective Date: January 1, 2002
Renewal Application Due Date: July 5, 2006
Expiration Date: December 31, 2006

Howard L. Rhodes, Director
Division of Air Resources
Management

HLR/sms/raw

Section I. Facility Information.

Subsection A. Facility Description.

Power Block 1 consists of two combined cycle combustion turbines with heat recovery steam generators (HRSGs), for a nominal total of 500 MWs, a 99 MMBtu/hr auxiliary boiler, a 1,300 kW diesel generator and a 97,570 barrel fuel oil storage tank. Emissions from each CT and HRSG combination are vented through a single stack for each. Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

Based on the initial Title V permit application received January 19, 1999, this facility is a major source of hazardous air pollutants (HAPs).

Subsection B. Summary of Emissions Unit ID No(s). and Brief Description(s).

<u>E.U. ID No.</u>	<u>Brief Description</u>
-001	170 MW Westinghouse 501F Combustion Turbine Unit 1
-002	170 MW Westinghouse 501F Combustion Turbine Unit 2
-003	Auxiliary Steam Boiler
-004	Emergency generator
7775047, 001	Relocatable diesel generator(s) with a maximum (combined) heat input of 25.74 MMBtu/hour while being fueled by 186.3 gallons of new No. 2 fuel oil per hour with a maximum (combined) rating of 2460 kilowatts. Emissions from the generator(s) are uncontrolled.

Unregulated Emissions Units and/or Activities

{See Appendix U-1}

Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID No(s). on all correspondence, test report submittals, applications, etc.

Subsection C. Relevant Documents.

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

These documents are provided to the permittee for information purposes only:

Table 1-1, Air Pollutant Emission Allowables and Terms

Table 2-1, Compliance Testing Requirements

Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers

Appendix H-1, Permit History/ID Number Changes

Documents on file with USEPA

Risk Management Plan submitted to the RMP Reporting Center on June 21, 1999.

These documents are on file with the permitting authority:

Initial Title V Permit Application received January 19, 1999.

Additional Information Requested dated March 9, 1999.

FPC response dated August 27, 1999.

FPC response dated November 9, 1999.

Comments from Florida Power Corporation received on February 10, 2000.

DEP letter to USEPA dated March 23, 2000.

USEPA Region 4 letter to Alabama DEM received by fax on May 26, 2000.

Construction Permit No. PSD-FL-195B, issued August 16, 2000.

Title V Permit Revision Application received October 26, 2000.

Section II. Facility-wide Conditions.

The following conditions apply facility-wide:

1. APPENDIX TV-3, TITLE V CONDITIONS, is a part of this permit.

{Permitting note: APPENDIX TV-3, TITLE V CONDITIONS, is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided a copy when requested or otherwise appropriate.}

2. **Not federally enforceable.** General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

[Rule 62-296.320(2), F.A.C.]

3. General Particulate Emission Limiting Standards. General Visible Emissions Standard.

Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C.

[Rules 62-296.320(4)(b)1. & 4, F.A.C.]

4. Prevention of Accidental Releases (Section 112(r) of CAA).

a. As required by Section 112(r)(7)(B)(iii) of the CAA and 40 CFR 68, the owner or operator shall submit an updated Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center.

b. As required under Section 252.941(1)(c), F.S., the owner or operator shall report to the appropriate representative of the Department of Community Affairs (DCA), as established by department rule, within one working day of discovery of an accidental release of a regulated substance from the stationary source, if the owner or operator is required to report the release to the United States Environmental Protection Agency under Section 112(r)(6) of the CAA.

c. The owner or operator shall submit the required annual registration fee to the DCA on or before April 1, in accordance with Part IV, Chapter 252, F.S. and Rule 9G-21, F.A.C.

Any required written reports, notifications, certifications, and data required to be sent to the DCA, should be sent to:

Department of Community Affairs
Division of Emergency Management
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
Telephone: 850/413-9921, Fax: 850/488-1739

Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent to:

RMP Reporting Center
Post Office Box 3346
Merrifield, VA 22116-3346
Telephone: 703/816-4434

Any required reports to be sent to the National Response Center, should be sent to:

National Response Center

EPA Office of Solid Waste and Emergency Response
USEPA (5305 W)
401 M Street, SW
Washington, D.C. 20460
Telephone: 1/800/424-8802

Send the required annual registration fee using approved forms made payable to:
Cashier

Department of Community Affairs
State Emergency Response Commission
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2149

[Part IV, Chapter 252, F.S. and Rule 9G-21, F.A.C.]

5. Unregulated Emissions Units and/or Activities. Appendix U-1, List of Unregulated Emissions Units and/or Activities, is a part of this permit.
[Rule 62-213.440(1), F.A.C.]

6. Insignificant Emissions Units and/or Activities. Appendix I-1, List of Insignificant Emissions Units and/or Activities, is a part of this permit.
[Rules 62-213.440(1), 62-213.430(6) and 62-4.040(1)(b), F.A.C.]

7. Not federally enforceable. General Pollutant Emission Limiting Standards. Volatile Organic Compounds Emissions or Organic Solvents Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.
[Rule 62-296.320(1)(a), F.A.C.; and, proposed by applicant in the initial Title V permit application received January 19, 1999.]

8. Not federally enforceable. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include:

- Maintenance of paved areas as needed,
- Regular mowing of grass and care of vegetation, and
- Limiting access to plant property by unnecessary vehicles.

[Rule 62-296.320(4)(c)2., F.A.C.; and, proposed by applicant in the initial Title V permit application received January 19, 1999.]

9. When appropriate, any recording, monitoring, or reporting requirements that are time-specific shall be in accordance with the effective date of the permit, which defines day one.
[Rule 62-213.440, F.A.C.]

10. Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3), F.A.C., shall be submitted within 60 (sixty) days after the end of the calendar year. {See condition 51., APPENDIX TV-3, TITLE V CONDITIONS}
[Rule 62-214.420(11), F.A.C.]

11. The permittee shall submit all compliance related notifications and reports required of this permit to the Department's Southwest District or office.

Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619-8218
Telephone: 813/744-6100, Fax: 813/744-6084

12. Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

United States Environmental Protection Agency
Region 4
Air, Pesticides & Toxics Management Division
Air and EPCRA Enforcement Branch
Air Enforcement Section
61 Forsyth Street
Atlanta, Georgia 30303
Telephone: 404/562-9155, Fax: 404/562-9164

Section III. Emissions Unit(s) and Conditions.

Subsection A. This section addresses the following emissions unit(s).

<u>E.U. ID No.</u>	<u>Brief Description</u>
-001	170 MW Westinghouse 501F Combustion Turbine
-002	170 MW Westinghouse 501F Combustion Turbine

Emission units 001 and 002 each consist of a combined cycle Westinghouse 501F Combustion Turbine, each with a nominal generator rating of 170 MW and each with a maximum heat input rating of 1,915 mmBtu/hr (LHV) while firing natural gas and 2,020 MMBtu/hr (LHV) while firing fuel oil. NO_x emissions are controlled with dry low NO_x burners (DLN) and/or Selective Catalytic Reduction (SCR) for natural gas firing and wet injection for fuel oil firing. Each combustion turbine incorporates an unfired heat recovery steam generator.

{Permitting notes: This emissions unit is regulated under Acid Rain, Phase II; NSPS - 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted and incorporated by reference in Rule 62-204.800(7), F.A.C.; Rule 212.400(5), F.A.C., Prevention of Significant Deterioration (PSD); PSD-FL-195B; Rule 62-212.400(6), F.A.C.}

The following specific conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

A.1. Permitted Capacity. At an ambient temperature of 59 °F, each combustion turbine shall not exceed 1,915 MMBtu/hr (LHV) while firing natural gas, or 2,020 MMBtu/hr (LHV) while firing fuel oil. See Attachment G-1 for a plot of heat input versus temperature. [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and PSD-FL-195B]

{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability.} [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

A.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition E.4.

A.3. Methods of Operation - (i.e., Fuels). Only natural gas, having a maximum sulfur content of 1 grain per 100 cf of natural gas, or low sulfur fuel oil having a maximum sulfur content of 0.05%, by weight, shall be fired in each combustion turbine at all times. The maximum allowable fuel oil consumption for the two turbines is 13,762,806 gallons per year, which is equivalent to an aggregate of 1,000 hours per year of operation at full load. [Rule 62-213.410, F.A.C.]

A.4. Hours of Operation. Each of the combustion turbines in Power Block 1 may operate continuously, i.e., 8,760 hours/year.

[Rule 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

{Permitting note: Table 1-1, Air Pollutant Emission Allowables and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

A.5. Emissions from the CT, while firing natural gas or low sulfur fuel oil, shall not exceed the following (at 59 °F reference temperature for NO_x emissions) (except during periods of startup, shutdown, malfunction):

CT Allowables				
Pollutant	Fuel	Basis(g)	lbs/hr.	TPY(b)
NO _x (a)	Gas	12 ppmvd (h)	73(i)	639
	Oil	42 ppmvd (c)(h)	305	153
VOC (d)	Gas	7 ppmvw	10.4	91
	Oil	10 ppmvw	19.0	5.6
SO ₂	Gas(f)		4.7	44
	Oil(f)		94	47
CO	Gas	25 ppmvd	77	675
	Oil	30 ppmvd	93	47
VE	Gas	10 percent opacity		
	Oil	20 percent opacity		
PM/PM ₁₀	Gas		15.6	79
	Oil(e)		44.8	21

- a. Pollutant emission rates may vary depending on ambient conditions (compressor inlet temperatures) and the CT characteristics. Manufacturer's curves for the NO_x emission rate correction to other temperatures at different loads were provided to the DEP for review and are now a part of this permit (Appendix G-1). The manufacturer's curves shall be used to establish pollutant emission rates over a range of temperatures for the purpose of compliance determination. Emission limitations in LB/HR/CT of NO_x are blocked 24-hour averages (midnight to midnight) and are calculated as follows:

NO_x emissions shall be determined continuously by a Continuous Emissions Monitoring System (CEMS). A CEMS operated and maintained in accordance with 40 CFR 75 shall be used. Compliance with the NO_x emissions standards in the above table shall be demonstrated with this CEMS system based on a 24-hour block average. Based on CEMS data at the end of each operating day, new 24-hour average emission rates, both actual and allowable (based on compressor inlet temperatures) are calculated from the arithmetic average of all valid hourly emission rates during the previous 24 operating hours. Valid hourly emission rates shall not include periods of startup (including fuel switching), shutdown, or malfunction as defined in Rule 62-210.200 where emissions exceed the NO_x standard. These excess emission periods shall be reported as required in 40 CFR 60.7(b). A valid hourly emission rate shall be calculated for each hour in which

two NO_x and carbon dioxide (or oxygen) concentrations are obtained at least 15 minutes apart. When monitoring data is not available, substitution for missing data shall be handled as required by Title IV (40 CFR 75) to calculate the 24-hour block average.

- b. Annual emission limits (TPY) for natural gas are based on a total of two CTs operating at full load 8,760 hours per year (i.e., NO_x - 73 lbs/hr X 2 CTs X 8,760 hrs/yr X 1 ton/2,000 lbs = 639 TPY). Annual emission limits (TPY) for fuel oil are based on full load operation for a total of 1,000 hours per year for the two CTs (i.e., NO_x - 305 lbs/hr X 1,000 hrs/yr X 1 ton/2,000 lbs = 153 TPY).
- c. Fuel oil NO_x emissions are based on full load operation and 15 percent oxygen. For fuel oil firing, NO_x levels of 42 ppmvd @ 15 percent O₂ are based on a fuel bound nitrogen content of 0.015 percent or less. The emission limit for NO_x is adjusted as follows for higher fuel nitrogen contents up to a maximum of 0.030 percent by weight:

<u>FUEL BOUND NITROGEN NO_x LEVELS</u>		<u>NO_x EMISSIONS</u>	
<u>(% BY WEIGHT)</u>	<u>(PPMVD @ 15%O₂)</u>	<u>LB/HR/CT</u>	<u>TPY</u>
0.015 or less	42	305	153
0.020	44	320	160
0.025	46	334	167
0.030	48	349	175

See Specific condition A.6.

NO_x emissions limits are preliminary for the fuel oil specified in Specific Condition No. A.3. FPC shall maintain fuel bound nitrogen content data for the low sulfur fuel oil prior to commercial operation. Adjustments of the NO_x standard (up and down) shall be calculated and recorded based on a volume weighted average of the nitrogen content of each bulk fuel oil shipment and the nitrogen content of the existing fuel in the storage tank. The NO_x emission allowance (F) for fuel oil shall not be adjusted between fuel oil shipments. Records for these adjusted standards shall be kept on site for a minimum of 5 years.

- d. Exclusive of background concentrations.
 - e. PM/PM₁₀ emission limitations include sulfuric acid mist.
 - f. SO₂ emissions are based on a maximum of 1 grain of S/100 cf of natural gas and 0.05 percent sulfur in the fuel oil.
 - g. The values are the computational basis for the lb/hr numbers, which are the actual emission limitations.
 - h. At 15 percent O₂, not ISO corrected.
 - i. Control of nitrogen oxides from each CT while firing natural gas shall be accomplished using dry low NO_x burners (DLN) and SCR. Ammonia slip shall not exceed 10 ppm.
2. The following CT emissions, determined by BACT, are tabulated for PSD purposes:

ESTIMATED EMISSIONS

POLLUTANT	METHOD OF CONTROL	Basis(b)
Benzene	Natural Gas	BACT
Inorganic Arsenic	No. 2 Fuel Oil (a)	BACT
Beryllium	No. 2 Fuel Oil (a)	BACT
Mercury	No. 2 Fuel Oil (a)	(c)
Pb	No. 2 Fuel Oil (a)	(c)

- a. The No. 2 fuel oil shall have a maximum sulfur content of 0.05 percent.
- b. Since these pollutants are inherent constituents in the fuel, the basis for control will be by specifying that only natural gas and No. 2 fuel oil can be fired at the facility.
- c. Below PSD significant emission levels.

[PSD-FL-195B]

A.6. Oxides of Nitrogen. In addition to the specific NO_x emission limits specified for each turbine, NO_x emissions shall not exceed any of the following limits:

- a. Nitrogen oxide emissions, expressed as NO_x shall not exceed:

$$STD = 0.0042 + F$$

where:

STD = allowable NO_x emissions (percent by volume at 15 percent O₂ and on a dry basis).

F = NO_x emission allowance for fuel-bound nitrogen defined by the following table:

Fuel-Bound Nitrogen (% by weight)	F (NO _x % by volume)
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).

[PSD-FL-195B]

Excess Emissions

A.7. Excess emissions resulting from startup, shutdown, malfunction, or load change shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period except in the event that the steam turbine has been shut down for 8 hours or more. During a cold start-up to combined cycle operation, up to four hours of excess emissions are allowed in a 24-hour period. Cold start-up is defined as a start-up to combined cycle operation following a steam turbine shutdown of greater than 48 hours. During a warm start up to combined cycle operation, up to three hours of excess emissions are allowed in a 24-hour period. Warm start-up is defined as a startup to combined cycle operation following a steam turbine of greater than 8 hours and less than 48 hours.

[Applicant Request, Vendor Combined Cycle Startup Curves Data and Rule 62-210.700, F.A.C.]

{Permitting note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of a NSPS, NESHAP, or Acid Rain program provision.}

Monitoring of Operations

A.8. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

[40 CFR 60.11(d)]

A.9. For each combined cycle unit, the permittee shall install, operate, and maintain a continuous emission monitoring system (CEMS) (in accordance with 40 CFR 60, Appendix F or 40 CFR 75, whichever is more stringent) or use other DEP approved alternate methods to monitor nitrogen oxides and, if necessary, a diluent gas (CO₂ or O₂). The Federal Acid Rain Program requirements of 40 CFR 75 shall apply when those requirements become effective for the CTs.

1. Each CEMS shall meet performance specifications of 40 CFR 60, Appendix B or 40 CFR 75, whichever is more stringent.
2. CEMS data shall be recorded and reported in accordance with Chapter 40 CFR 60 Appendix A and Subpart GG or 40 CFR 75, whichever is more stringent. The record shall include periods of start up, shutdown, and malfunction. Compliance with condition **A.5.** for NO_x shall be determined by CEMS on a mass emission rate basis (LB/HR) using EPA Method 19 and hourly averaged heat inputs (MMBtu/hr).
3. A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.
4. The procedures under 40 CFR 60.13 or 40 CFR 75, whichever is more stringent, shall be followed for installation, evaluation, and operation of all CEMS.
5. For purposes of the reports required under this permit, excess emissions are defined as any calculated average emission rate, as determined pursuant to condition **A.7.** herein, which exceeds the applicable emission limits in condition **A.5.**

[PSD-FL-195B]

A.10. Tests Required

a. PM, VE, and CO. Except as provided in specific conditions **A.17.**, **A.18.** and **E.3.** of this permit, emission testing for particulate matter emissions, visible emissions, and carbon monoxide emissions shall be performed annually.

b. Volatile Organic Compounds. The initial test requirement for VOC's was satisfied.

[Rules 62-4.070(3), 62-213.440, and 62-297.310(7), F.A.C.]

A.11. The permittee shall monitor sulfur content and nitrogen content of the new No. 2 distillate fuel oil and sulfur content of natural gas. These values may be provided by the vendor and the frequency of determinations of these values shall be as follows:

a. New No. 2 Distillate Fuel Oil. The values, sulfur and nitrogen content, shall be determined on each occasion that fuel is transferred to the storage tanks from any other source. Records of these values shall be kept by the facility for a five year period for regulatory agency inspection purposes.

b. Natural Gas. Pursuant to 40 CFR 60.334(b)(2), a custom fuel monitoring schedule for the determination of these values shall be followed for the natural gas fired at this facility and shall be as follows:

Custom Fuel Monitoring Schedule for Natural Gas (NG)

1. Monitoring of fuel nitrogen content shall not be required if NG is the only fuel being fired in the gas turbines.

2. Sulfur Monitoring:

(a). Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are ASTM D1072-80, ASTM D3031-81, ASTM D3246-81, and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2), or the latest edition(s).

(b). This custom fuel monitoring schedule shall become effective on the date this permit becomes valid. Effective the date of this custom schedule, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333 and the conditions of this permit, then sulfur monitoring shall be conducted once per quarter for six quarters. If monitoring data is provided by the applicant which demonstrates consistent compliance with the requirements herein the applicant may begin monitoring as per the requirements of 2(c).

(c). If after the monitoring required in item 2(b) above, or herein, the sulfur content of the fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333 and the conditions of this permit, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.

(d). Should any sulfur analysis as required in items 2(b) or 2(c) above indicate non-compliance with 40 CFR 60.333 and the conditions of this permit, the owner or operator shall notify the Department of such excess emissions and the custom schedule shall be re-examined. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.

3. If there is a change in fuel supply, the owner or operator must notify the Department of such change for re-examination of this custom schedule. A substantial change in natural gas quality (i.e., sulfur content varying by more than 10 grains/1000 of gas) shall be considered as a change in fuel supply. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.

4. Records of sample analysis and fuel supply pertinent to this custom schedule shall be retained for a period of five years, and be available for inspection by personnel of federal, state, and local air pollution control agencies.

[40 CFR 60.334(b); PSD-FL-195B; and, Custom Fuel Monitoring Schedule Approved on June 1, 2000.]

Test Methods and Procedures

{Permitting note: Table 2-1, Compliance Testing Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

A.12. Critical Fuel Parameters. The maximum sulfur content of the low sulfur fuel oil shall not exceed 0.05 percent by weight. Compliance shall be demonstrated in accordance with the requirements of 40 CFR 60.334 testing for sulfur content of the fuel oil in the storage tanks on each occasion that fuel is transferred to the storage tanks from any other source. Testing for fuel bound nitrogen content by ASTM D3431 or D4629 or other equivalent ASTM method, and for fuel oil higher heating value, shall also be conducted on the same schedule.

[40 CFR 60.334(b)]

A.13. Particulate Matter. The test methods for particulate emissions shall be either EPA Method 5 or Method 17 incorporated by reference in Chapter 62-297, F.A.C.

[Rule 62-297.401, F.A.C. and PSD-FL-195B]

A.14. Visible Emissions. The test method for visible emissions shall be EPA Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C.

[Rule 62-297.401, F.A.C. and PSD-FL-195B]

A.15. Sulfur Dioxide. The permittee shall determine compliance with the sulfur content standard in 40 CFR 60.333(b) as follows:

ASTM D 4294 (or equivalent) for sulfur content of distillate oil, and;

ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 (or equivalent) for sulfur content of natural gas.

[Rules 62-297.440, and 62-297.620(2)(d), F.A.C.; and PSD-FL-195B]

A.16. a. Carbon Monoxide. The test method for carbon monoxide shall be EPA Method 10.

b. **Volatile Organic Compounds.** The test method for VOC's shall be EPA Method 18 or Method 25A.

[PSD-FL-195B]

A.17. Frequency of Compliance Tests. Any combustion turbine that does not operate for more than 400 hours per year shall conduct a visible emissions compliance test once per each five-year period, coinciding with the term of its air operating permit.

[Rule 62-297.310(7), F.A.C.]

A.18. Annual emissions compliance testing for particulate matter emissions, carbon monoxide emissions, and visible emissions shall be performed for oil and only if fuel oil is more than 400 hours for the emission unit in the previous federal fiscal year.

[PSD-FL-195B]

A.19. Other DEP approved methods may be used for compliance testing after prior Departmental approval.

[PSD-FL-195B]

A.20. To meet the requirements of 40 CFR 60.334(b), the permittee shall use the methods specified in 40 CFR 60.335(a) and (d) to determine the nitrogen and sulfur contents of the fuel being burned. The analysis may be performed by the permittee, a service contractor retained by the permittee, the fuel vendor, or any other qualified agency.

[40 CFR 60.335(e)]

Continuous Monitoring Requirements

A.21. Oxides of Nitrogen. NO_x emissions shall be determined continuously by a Continuous Emissions Monitoring System (CEMS). A CEMS operated and maintained in accordance with 40 CFR 75 shall be used. Compliance with the NO_x emissions standards in the above table shall be demonstrated with this CEMS system based on a 24-hour block average. Based on CEMS data at the end of each operating day, new 24-hour average emission rates, both actual and allowable (based on compressor inlet temperatures) are calculated from the arithmetic average of all valid hourly emission rates during the previous 24 operating hours. Valid hourly emission rates shall not include periods of startup (including fuel switching), shutdown, or malfunction as defined in Rule 62-210.200 where emissions exceed the NO_x standard. These excess emission periods shall be reported as required by 40 CFR 60.7(b). A valid hourly emission rate shall be calculated for each hour in which two NO_x and carbon dioxide (or oxygen) concentrations are obtained at least 15 minutes apart. When monitoring data is not available, substitution for missing data shall be handled as required by Title IV (40 CFR 75) to calculate the 24-hour block average.

[PSD-FL-195B]

Recordkeeping and Reporting Requirements

A.22. To determine compliance with the natural gas and fuel oil firing heat input limitation, the permittee shall maintain daily records of natural gas and fuel oil consumption for each turbine, as well as recent records of the heating value for each fuel. All records shall be maintained for a minimum of five years after the date of each record and shall be made available to representatives of the Department upon request.

[Rule 62-4.070(3), F.A.C., and PSD-FL-195B]

Miscellaneous Conditions

A.23. The permittee shall have the option of installing duct module(s) suitable for possible future installation of an oxidation catalyst and/or SCR equipment on each combined cycle generating unit. In the event that the module(s) are not installed in the Heat Recovery Steam Generator (HRSG), the retrofit costs associated with not making provisions for such technology (initially) shall not be considered in any future economic evaluation to justify not installing SCR or an oxidation catalyst.

[PSD-FL-195B]

A.24. Units to be constructed or modified in later phases of the project will be reviewed under the supplementary review process of the Power Plant Siting Act. If site construction has not commenced within 18 months of issuance of this certification, then FPC shall obtain from DEP a review and, if necessary, a modification of the BACT determination and allowable emissions for the unit(s) on which construction has not commenced.

[PSD-FL-195B]

Common Conditions

A.25. These emissions unit are also subject to conditions **E.1.** through **E.22.** contained in **Subsection E. Common Conditions.**

Subsection B. This section addresses the following emissions unit(s).

E.U.

<u>ID No.</u>	<u>Brief Description</u>
-003	Auxiliary Steam Boiler

Emission unit 003 is a Steam boiler rated at 99 MMBtu at 1,050 Btu/cf natural gas (HHV). The boiler provides steam for periods of Combustion Turbine startup or quick startup out of a short-term shutdown. The boiler has no add-on pollution control equipment. Air pollution emissions are controlled by efficient combustion and firing natural gas.

{Permitting note: The emissions unit is regulated under NSPS - 40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, adopted and incorporated by reference in Rule 62-204.800(7), F.A.C.}

The following specific conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

B.1. Permitted Capacity. The maximum operation heat input rate for the boiler is as follows:

Unit No.	Fuel Type	MMBtu/hr Heat Input
003	Natural Gas	99

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and PSD-FL-195B]

B.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition E.4.

B.3. Methods of Operation - (i.e., Fuels). Only natural gas shall be fired in the auxiliary steam boiler at all times.

[Rule 62-213.410, F.A.C.]

B.4. Hours of Operation. The operation of the auxiliary steam boiler shall be limited to a maximum of 1000 hours per year and only during periods of cold CT startup or quick startup out of a short term shutdown mode, when no other source of steam is available or during periodic testing.

[Rule 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

{Permitting note: Table 1-1, Air Pollutant Emission Allowables and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

B.5. Nitrogen Oxides. NO_x emissions shall not exceed 0.1 lb/MMBtu for natural gas firing based on vendor-certified stack test data for this model of auxiliary boiler.

[PSD-FL-195B]

B.6. Sulfur dioxide. Emissions shall be limited by firing natural gas.
[Rule 62-296.406(2), F.A.C., PSD-FL-195B]

B.7. Visible emissions. Visible emissions shall not exceed 10 percent opacity while burning natural gas.
[PSD-FL-195B]

Excess Emissions

B.8. Excess emissions resulting from malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for a longer duration.

{Permitting note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of a NSPS, NESHAP, or Acid Rain program provision.}

B.9. Excess emissions resulting from startup or shutdown shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized.

[Rule 62.210.700(2), F.A.C.]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

B.10. Visible emissions. The test method for visible emissions shall be EPA Method 9, incorporated in Chapter 62-297, F.A.C.

[Rules 62-213.440 and 62-297.401, F.A.C.]

B.11. DEP Method 9. The provisions of EPA Method 9 (40 CFR 60, Appendix A) are adopted by reference with the following exceptions:

1. EPA Method 9, Section 2.4, Recording Observations. Opacity observations shall be made and recorded by a certified observer at sequential fifteen second intervals during the required period of observation.

2. EPA Method 9, Section 2.5, Data Reduction. For a set of observations to be acceptable, the observer shall have made and recorded, or verified the recording of, at least 90 percent of the possible individual observations during the required observation period. For single-valued opacity standards (e.g., 20 percent opacity), the test result shall be the highest valid six-minute average for the set of observations taken. For multiple-valued opacity standards (e.g., 20 percent opacity, except that an opacity of 40 percent is permissible for not more than two minutes per hour) opacity shall be computed as follows:

a. For the basic part of the standard (i.e., 20 percent opacity) the opacity shall be determined as specified above for a single-valued opacity standard.

- b. For the short-term average part of the standard, opacity shall be the highest valid short-term average (i.e., two-minute, three-minute average) for the set of observations taken.

In order to be valid, any required average (i.e., a six-minute or two-minute average) shall be based on all of the valid observations in the sequential subset of observations selected, and the selected subset shall contain at least 90 percent of the observations possible for the required averaging time. Each required average shall be calculated by summing the opacity value of each of the valid observations in the appropriate subset, dividing this sum by the number of valid observations in the subset, and rounding the result to the nearest whole number. The number of missing observations in the subset shall be indicated in parenthesis after the subset average value. [Rule 62-297.401, F.A.C.]

B.12. By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning:

- a. only gaseous fuel(s); or
- b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or
- c. only liquid fuel(s) for less than 400 hours per year.

[Rule 62-297.310(7)(a)4., F.A.C.]

B.13. All recorded data shall be maintained on file by the Source for a period of five years.

[Rule 62-213.440, F.A.C.]

B.14. Test Reports.

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department Southwest District office or the Southwest District Branch office on the results of each such test.

(b) The required test report shall be filed with the Department Southwest District office or the Southwest District Branch office as soon as practical but no later than 45 days after the last sampling run of each test is completed.

[Rule 62-297.310(8), F.A.C.]

B.15. This emissions unit is also subject to conditions **E.1** through **E.22.** contained in **Subsection E. Common Conditions.**

Subsection C. This section addresses the following emissions unit(s).

E.U.

ID No. Brief Description

-004 Emergency Diesel Generator rated at 1,300 kW to be used for site emergency power and periodic testing.

{Permitting note: The emissions unit is regulated under Rule 62-296.406, F.A.C.}

The following specific conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

C.1. Permitted Capacity. The maximum heat input rate shall not exceed 13 million Btu per hour.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

C.2. Methods of Operation - (i.e., Fuels). Only low sulfur fuel oil with a maximum sulfur content of 0.05%, by weight, shall be fired in the diesel generator.
[Rule 62-213.410, F.A.C.; and PSD-FL-195B]

C.3. Hours of Operation. The hours of operation for this emissions unit shall not exceed 100 hours/year.
[Rule 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

{Permitting note: Table 1-1, Air Pollutant Emission Allowables and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

C.4. Visible emissions. Visible emissions from the generator shall not exceed 20 percent opacity.
[Rule 62-296.320(4)(b)(1), F.A.C.; and, PSD-FL-195B]

C.5. Sulfur Dioxide. Sulfur dioxide shall be limited by firing only low sulfur fuel oil with maximum sulfur content of 0.05 percent by weight.
[PSD-FL-195B]

C.6. Oxides of Nitrogen. Oxides of nitrogen shall not exceed 9.82 grams/hp-hr based on vendor-certified stack test data (or equivalent) on the model of generator purchased. This test data shall be provided to the Department with the initial combustion turbine performance test report.
[PSD-FL-195B]

Common Conditions

C.7. This emissions unit is also subject to conditions **E.1** through **E.22.** contained in **Subsection E. Common Conditions.**

Subsection D. This section addresses the following emissions unit(s).

Facility ID No.	E. U. ID No.	Brief Description
7775047	-001	Relocatable diesel generator(s) with a maximum (combined) heat input of 25.74 MMBtu/hour while being fueled by 186.3 gallons of new No. 2 fuel oil per hour with a maximum (combined) rating of 2460 kilowatts. Emissions from the generator(s) are uncontrolled.

The generators may be relocated to any of the following facilities:

1. Crystal River Plant, Powerline Road, Red Level, Citrus County.
2. Bartow Plant, Weedon Island, St. Petersburg, Pinellas County.
3. Higgins Plant, Shore Drive, Oldsmar, Pinellas County.
4. Bayboro Plant, 13th Ave. & 2nd St. South, St. Petersburg, Pinellas County.
5. Wildwood Reclamation Facility, State Road 462, 1 mi. east of U.S. 301, Wildwood, Sumter County.
6. Hines Energy Complex, County Road 555, 1 mi. southwest of Homeland, Polk County.
7. Anclote Power Plant, 1729 Baileys Road, Holiday, Pasco County

{Permitting notes: These emissions units are regulated under Rule 62-210.300, F.A.C., Permits Required. Each generator has its own stack. This section of the permit is only applicable when the generator(s) is(are) located at the Hines Energy Complex.}

The following specific conditions apply to the emissions units listed above regardless of location:

Essential Potential to Emit (PTE) Parameters

D.1. Permitted Capacity. The maximum (combined) heat input rate shall not exceed 25.74 million Btu per hour.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

D.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition D.13.
[Rule 62-297.310(2), F.A.C.]

D.3. Methods of Operation - Fuels. Only new No. 2 fuel oil with a maximum sulfur content of 0.5%, by weight, shall be fired in the diesel generator(s).
[Rule 62-213.410, F.A.C. and, AC 09-202080.]

D.4. Hours of Operation. The hours of operation expressed as "engine-hours" shall not exceed 2970 hours in any consecutive 12 month period. The total hours of operation expressed as "engine-hours" shall be the summation of the individual hours of operation of each generator.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and, AC 09-202080.]

Emission Limitations and Standards

{Permitting Note: The attached Table 1-1, Air Pollutant Emission Allowables and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

D.5. Visible Emissions. Visible emissions from each generator shall not be equal to or greater than 20 percent opacity, six minute average.

[Rule 62-296.320(4)(b)1., F.A.C.; and, AC 09-202080.]

Excess Emissions

D.6. Excess emissions from these emissions units resulting from startup, shutdown or malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.

[Rule 62-210.700(1), F.A.C.]

D.7. 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.

[Rule 62-210.700(4), F.A.C.]

Monitoring of Operations

D.8. Fuel Sulfur Analysis. The permittee shall demonstrate compliance with the liquid fuel sulfur limit by means of a fuel analysis provided by the vendor or permittee upon each fuel delivery. See specific condition **D.3.** and **D.10.**

[Rule 62-213.440, F.A.C.]

Test Methods and Procedures

{Permitting Note: The attached Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

D.9. The test method for visible emissions shall be EPA Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C.

[Rules 62-296.320(4)(b)4.a. and 62-297.401, F.A.C.]

D.10. The fuel sulfur content, percent by weight, for liquid fuels shall be evaluated using either ASTM D2622-94, ASTM D4294-90, both ASTM D4057-88 and ASTM D129-95, or the latest edition(s).

[Rules 62-213.440 and 62-297.440, F.A.C.]

D.11. Visible Emissions Testing - Annual. By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning liquid fuels for less than 400 hours per year.

[Rules 62-297.310(7)(a)4. & 8., F.A.C.]

D.12. After each relocation, each generator shall be tested within 30 days of startup for opacity and the fuel shall be analyzed for the sulfur content. See specific conditions **D.3.**, **D.5.**, and **D.8.** [Rules 62-4.070(3) and 62-297.310(7)(b), F.A.C.; and, AO 09-205952.]

D.13. Operating Rate During Testing. Testing of emissions shall be conducted with the generator(s) operating at 90 to 100 percent of the maximum fuel firing rate for each generator. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity (i.e., at less than 90 percent of the maximum operation rate allowed by the permit); in this case, subsequent emissions unit operations may be limited to 110 percent of the test load until a new test is conducted, provided however, operations do not exceed 100 percent of the maximum operation rate allowed by the permit. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Failure to submit the actual operating rate may invalidate the test. [Rules 62-297.310(2), F.A.C.; and, AC 09-202080.]

Recordkeeping and Reporting Requirements

D.14. Malfunction Reporting. In the case of excess emissions resulting from malfunctions, the owner or operator shall notify the Southwest District Air Section, in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Southwest District Air Section. [Rule 62-210.700(6), F.A.C.]

D.15. Test Reports.

- (a) Each generator shall be tested on an annual basis within 30 days of the date October 25.
 - (b) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.
 - (c) The required test report shall be filed with the Southwest District Office, as soon as practical but no later than 45 days after the last sampling run of each test is completed.
 - (d) The test reports for a unit that has been relocated shall be submitted to the Southwest District Office.
- [Rule 62-297.310(8), F.A.C.; and, AO 09-25952.]

D.16. To demonstrate compliance with specific condition **D.4.**, records shall indicate the daily hours of operation for each of the generators, the daily hours of operation expressed as "engine-hours" and the cumulative total hours of operation expressed as "engine-hours" for each month. The records shall be maintained for a minimum of 5 years and made available to the Southwest District Office upon request. The records shall be maintained at each individual site. [Rules 62-213.440 and 62-297.310(8), F.A.C.; and, AO 09-205952.]

D.17. To demonstrate compliance with specific condition **D.3.**, records of the sulfur content, in percent by weight, of all the fuel burned shall be kept based on either vendor provided as-delivered or as-received fuel sample analysis. The records shall be maintained for a minimum of 5 years and made available to the Southwest District Office upon request. The records shall be maintained at each individual site. [Rule 62-297.310(8), F.A.C.; and, AC 09-202080.]

Source Obligation

D.18. Specific conditions in construction permit AC 09-202080, limiting the “engine hours”, were accepted by the applicant to escape Prevention of Significant Deterioration new source review. If Florida Power Corporation requests a relaxation of any of the federally enforceable emission limits in this permit, the relaxation of limits may be subject to the preconstruction review requirements of Rule 62-212.400(5), F.A.C., as though construction had not yet begun. [Rule 62-212.400(2)(g), F.A.C.; and, AC 09-202080.]

D.19. Florida Power Corporation shall notify the Department’s Southwest District Office, in writing, at least 15 days prior to the date on which any diesel generator is to be relocated. The notification shall specify the following;

- a. which generator, by serial number, is being relocated,
- b. which location the generator is being relocated from and which location it is being relocated to, and
- c. the approximate startup date at the new location;

[Rule 62-4.070(3), F.A.C.; and AC 09-202080]

D.20. This emissions unit is also subject to conditions E.1. through E.22., **except for E.4,** contained in **Subsection E. Common Conditions.**

Subsection E. Common Conditions.

<u>E.U. ID</u> <u>No.</u>	<u>Brief Description</u>
001	170 MW Westinghouse 501F Combustion Turbine Unit 1
002	170 MW Westinghouse 501F Combustion Turbine Unit 2
003	Auxiliary Steam Boiler
004	Emergency generator with a total fuel consumption limited to 32,000 gallons per year of diesel fuel oil.
7775047, 001	Relocatable diesel generator(s) will have a maximum (combined) heat input of 25.74 MMBtu/hour while being fueled by 186.3 gallons of new No. 2 fuel oil per hour with a maximum (combined) rating of 2460 kilowatts. Emissions from the generator(s) are uncontrolled.

Except as otherwise specified under Subsections A. through D., the following conditions apply to the emissions unit(s) listed above:

Excess Emissions

E.1. 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.

[Rule 62-210.700(4), F.A.C.]

Monitoring of Operations

E.2. Determination of Process Variables.

(a) **Required Equipment.** The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) **Accuracy of Equipment.** Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

E.3. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) **General Compliance Testing.**

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid fuel for more than 400 hours other than during startup.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

- a. Did not operate; or
- b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.

4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

- a. Visible emissions, if there is an applicable standard.
- b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and,
- c. Each NESHAP pollutant, if there is an applicable emission standard.

9. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.

[Rule 62-297.310(7), F.A.C.; SIP approved; and, AO 09-205952.]

Test Methods and Procedures

E.4. Operating Rate During Testing. Testing of emissions shall be conducted with the source operating at capacity (maximum heat input rate for the tested operating temperature). Capacity is defined as 90 - 100 percent of permitted capacity. If it is impracticable to test at capacity, then sources may be tested at less than capacity; in this case subsequent source operation is limited to 110 percent of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen consecutive days for purposes of additional compliance testing to regain the rated capacity in the permit, with prior notification to the Department.

[Rules 62.297.310(2) and (2)(b), F.A.C.]

E.5. Applicable Test Procedures.

(a) Required Sampling Time.

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.

2. ~~Opacity Compliance Tests.~~ When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.

(c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1. (See attachment.)

(e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

[Rule 62-297.310(4), F.A.C.]

E.6. Required Number of Test Runs. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic

mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.

[Rule 62-297.310(1), F.A.C.]

E.7. Required Stack Sampling Facilities. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.

[Rule 62-297.310(6), F.A.C.]

Record Keeping and Reporting Requirements

E.8. Test Reports.

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department's Central District Office on the results of each such test.

(b) The required test report shall be filed with the Department's Central District Office as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.

18. All measured and calculated data required to be determined by each applicable test procedure for each run.

19. The detailed calculations for one run that relate the collected data to the calculated emission rate.

20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.

21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

E.9. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department's Southwest District office or the Southwest District Branch office in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department's Southwest District office or the Southwest District Branch office.

[Rule 62-210.700(6), F.A.C.]

E.10. Quarterly Report. FPC shall submit a quarterly excess emissions report and monitoring systems performance reports. All reports shall be postmarked by the 30th day following the end of each quarter. Written reports of excess emissions shall include the following information:

1. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.
2. Specific identification of each period of excess emissions that occurs during startups, shutdowns and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
3. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
4. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

[40 CFR 60.7(c)]

E.11. The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 CFR 60.7(b)]

E.12. Summary Report. The summary report form shall contain the information and be in the format shown in Figure 1 of 40 CFR 60.7(d) unless otherwise specified by the Department. One summary report form shall be submitted for each pollutant monitored.

1. If the total duration of excess emissions for the reporting period is less than one percent of the operating time for the reporting period and CMS downtime for the reporting period is less than five percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 40 CFR 60.7(c) need not be submitted unless requested by the Department.
2. If the total duration of excess emissions for the reporting period is one percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is five percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR 60.7(c) shall both be submitted.

[40 CFR 60.7 (c) and (d)]

E.13. Reporting Frequency. (1) Notwithstanding the frequency of reporting requirements specified in 40 CFR 60.7(c), a permittee who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(i) For 1 year (e.g. 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;

(ii) FPC continues to comply with all recordkeeping and monitoring requirements specified in 40 CFR 60, Subpart A, and the applicable standard; and

(iii) The Department does not object to a reduced frequency of reporting for the affected facility, as provided in 40 CFR 60.7(e)(2).

(2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after FPC notifies the Department in writing of his or her intention to make such a change and the Department does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Department may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of a FPC conformance with operation and maintenance requirements. Such information may be used by the Department to make a judgement about the source's potential for noncompliance in the future. If the Department disapproves the FPC's request to reduce the frequency of reporting, the Department will notify the permittee in writing within 45 days after receiving notice of FPC's intention. The notification from the Department to the permittee will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the permittee shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with applicable standard for another full year, the permittee may again request approval from the Department to reduce the frequency of reporting for that standard as provided for in 40 CFR 60.7(e)(1) and (e)(2).

[40 CFR 60.7(e)]

E.14. Records Retention. The permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and, all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least **5 (five)** years following the date of such measurements, maintenance, reports, and records.

[40 CFR 60.7(f); Rule 62-213.440(1)(b)2.b., F.A.C.]

E.15. Credible Evidence. For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in 40 CFR 60, nothing in 40 CFR 60 shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

[40 CFR 60.11(g)]

Miscellaneous Conditions

E.16. Department Notification. FPC shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted timely and 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.

[40 CFR 60.8(d)]

Modifications

E.17. Except as provided under 40 CFR 60.14(e) and 40 CFR 60.14(f), any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere.

[Rule 62-296.800, F.A.C.; and 40 CFR 60.14(a)].

E.18. Emission rate shall be expressed as kg/hr (lbs./hour) of any pollutant discharged into the atmosphere for which a standard is applicable. The Department shall use the following to determine emission rate:

(1) Emission factors as specified in the latest issue of "Compilation of Air Pollutant Emission Factors", EPA Publication No. AP-42, or other emission factors determined by the Department to be superior to AP-42 emission factors, in cases where utilization of emission factors demonstrate that the emission level resulting from the physical or operational change will either clearly increase or clearly not increase.

(2) Material balances, continuous monitor data, or manual emission tests in cases where utilization of emission factors as referenced in 40 CFR 60.14(b)(1) does not demonstrate to the Department's satisfaction whether the emission level resulting from the physical or operational change will either clearly increase or clearly not increase, or where an owner or operator

demonstrates to the Department's satisfaction that there are reasonable grounds to dispute the result obtained by the Department utilizing emission factors as referenced in 40 CFR 60.14(b)(1). When the emission rate is based on results from manual emission tests or continuous monitoring systems, the procedures specified in 40 CFR 60 appendix C of 40 CFR 60 shall be used to determine whether an increase in emission rate has occurred. Tests shall be conducted under such conditions as the Department shall specify to the owner or operator based on representative performance of the facility. At least three valid test runs must be conducted before and at least three after the physical or operational change. All operating parameters which may affect emissions must be held constant to the maximum feasible degree for all test runs.
[Rule 62-296.800, F.A.C.; and 40 CFR 60.14(b)].

E.19. The addition of an affected facility to a stationary source as an expansion to that source or as a replacement for an existing facility shall not by itself bring within the applicability of 40 CFR 60 any other facility within that source.
[Rule 62-296.800, F.A.C.; and 40 CFR 60.14(c)].

E.20. The following shall not, by themselves, be considered modifications under 40 CFR 60:

(1) Maintenance, repair, and replacement which the Department determines to be routine for a source category, subject to the provisions of 40 CFR 60.14(c) and 40 CFR 60.15.

(2) An increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on that facility.

(3) An increase in the hours of operation.

(4) Use of an alternative fuel or raw material if, prior to the date any standard under 40 CFR 60 becomes applicable to that source type, as provided by 40 CFR 60.1, the existing facility was designed to accommodate that alternative use. A facility shall be considered to be designed to accommodate an alternative fuel or raw material if that use could be accomplished under the facility's construction specifications as amended prior to the change. Conversion to coal required for energy considerations, as specified in section 111(a)(8) of the Act, shall not be considered a modification.

(5) The addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or is replaced by a system which the Department determines to be less environmentally beneficial.

(6) The relocation or change in ownership of an existing facility.

[Rule 62-296.800, F.A.C.; and 40 CFR 60.14(e)].

E.21. Special provisions set forth under an applicable subpart of 40 CFR 60 shall supersede any conflicting provisions of this section.

[Rule 62-296.800, F.A.C.; and 40 CFR 60.14(f)].

E.22. Within 180 days of the completion of any physical or operational change subject to the control measures specified in 40 CFR 60.14(a), compliance with all applicable standards must be achieved.

[Rule 62-296.800, F.A.C.; and 40 CFR 60.14(g)].

Section IV. This section is the Acid Rain Part.

Operated by: Florida Power Corporation

ORIS code: 7302

Subsection A. This subsection addresses Acid Rain, Phase II.

The emissions unit(s) listed below are regulated under Acid Rain, Phase II.

E.U.

ID No. Brief Description

-001 170 MW Combined Cycle Westinghouse 501F Combustion Turbine Unit 1

-002 170 MW Combined Cycle Westinghouse 501F Combustion Turbine Unit 2

A.1. The Phase II permit application(s) submitted for this facility, as approved by the Department, is a part of this permit. The owners and operators of these Phase II acid rain unit(s) must comply with the standard requirements and special provisions set forth in the application(s) listed below:

a. DEP Form No. 62-210.900(1)(a), dated 07/01/95

[Rules 62-213, F.A.C. and 62-214.320, F.A.C.]

A.2. Sulfur dioxide (SO₂) allowance allocations and nitrogen oxide (NO_x) requirements for each Acid Rain unit are as follows:

<u>E.U. ID No.</u>	<u>EPA ID</u>	<u>Year</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
-001	1A	SO ₂ allowances, under Table 2 or 3 of 40 CFR Part 73	0*	0*	0*	0*	0*
-002	1B	SO ₂ allowances, under Table 2 or 3 of 40 CFR Part 73	0*	0*	0*	0*	0*

*The number of allowances held by an Acid Rain source in a unit account may differ from the number allocated by the USEPA under Table 2 or 3 of 40 CFR 73.

A.3. Emission Allowances. Emissions from sources subject to the Federal Acid Rain Program (Title IV) shall not exceed any allowances that the source lawfully holds under the Federal Acid Rain Program. Allowances shall not be used to demonstrate compliance with a non-Title IV applicable requirement of the Act.

1. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the Federal Acid Rain Program, provided that such increases do not require a permit revision pursuant to Rule 62-213.400(3), F.A.C.
2. No limit shall be placed on the number of allowances held by the source under the Federal Acid Rain Program.
3. Allowances shall be accounted for under the Federal Acid Rain Program.

[Rule 62-213.440(1)(c), F.A.C.]

A.4. Fast-Track Revisions of Acid Rain Parts. Those Acid Rain sources making a change described at Rule 62-214.370(4), F.A.C., may request such change as provided in Rule 62-213.413, F.A.C., Fast-Track Revisions of Acid Rain Parts.

[Rules 62-213.413 and 62-214.370(4), F.A.C.]

A.5. Comments, notes, and justifications: Phase II Permit received 1/19/99.

A.6. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be incorporated into the permit and shall be enforceable by the Administrator.

[40 CFR 70.6(a)(1)(ii); and, Rule 62-210.200, Definitions - Applicable Requirements, F.A.C.]

Table 1-1, Air Pollutant Emission Allowables and Terms

Florida Power Corporation
 Hines Energy Complex
 Page 1 of 2

PROPOSED Permit ID No.: 1050234-001-AV
 Facility ID No.: 1050234

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

Emission Unit & No.				Allowable Emissions ²		Regulations	Permit specific condition(s)
Pollutant	Fuel(s)	Hrs/Yr ¹	Basis	lbs/hr	TPY		
CT-001 & 002							
NO _x	Gas		12ppmvd @ 15% O ₂	73	639	Rule 62-212.400(6), F.A.C.	A.5.
	Oil		42 ppmvd @ 15% O ₂	305	153	Rule 62-212.400(6), F.A.C.	A.5.
VOC	Gas		7 ppmvw	10.4	91	Rule 62-212.400(6), F.A.C.	A.5.
	Oil		10 ppmvw	19.0	5.6	Rule 62-212.400(6), F.A.C.	A.5.
CO	Gas		25 ppmvd	77	675	Rule 62-212.400(6), F.A.C.	A.5.
	Oil		30 ppmvd	93	47	Rule 62-212.400(6), F.A.C.	A.5.
VE	Gas		10 percent opacity			Rule 62-212.400(6), F.A.C.	A.5.
	Oil		20 percent opacity			Rule 62-212.400(6), F.A.C.	A.5.
SO ₂	Gas			4.7	44	Rule 62-212.400(6), F.A.C.	A.5.
	Oil		0.05% S by weight	94	47	Rule 62-212.400(6), F.A.C.	A.5.
PM/PM ₁₀	Gas			15.6	79	Rule 62-212.400(6), F.A.C.	A.5.
	Oil			44.8	21	Rule 62-212.400(6), F.A.C.	A.5.
Aux-Boiler-003							
NO _x	Gas		0.1 lb/MMBtu			Rule 62-212.400(6), F.A.C.	B.5.
VE	Gas		10% opacity			Rule 62-212.400(6), F.A.C.	B.7.

1 Refer to Specific Condition No. A.3. thru A.4. for the turbine hours of operation while firing natural gas and fuel oil.

2 Allowables established in PSD-FL-195B and BACT Determination

Table 1-1, Air Pollutant Emission Allowables and Terms

Florida Power Corporation
 Hines Energy Complex
 Page 2 of 2

PROPOSED Permit ID No.: 1050234-001-AV
 Facility ID No.: 1050234

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

Emission Unit & No.			Allowable Emissions				
Pollutant	Fuel(s)	Hrs/Yr ¹	Basis	lbs/hr	TPY	Regulations	Permit specific condition(s)

Diesel Generator-004							
NO _x	Oil		9.82 grams/hp-hr			Rule 62-212.400(6), F.A.C.	C.6.
VE	Oil		20% opacity			Rule 62-296.320(4)(b)(1), F.A.C.	C.4.
SO ₂	Oil		0.5% S by weight			Rule 62-212.400(6), F.A.C.	C.5.

Relocatable Diesel Generator 7775047-001							
VE	Oil		20% opacity			Rule 62-296.320(4)(b)(1), F.A.C.	D.5.
SO ₂	Oil		0.5% S by weight			Rule 62-213.410, F.A.C.	D.3.

1 Refer to Specific Condition No. A.3. thru A.4. for the turbine hours of operation while firing natural gas and fuel oil.
 2 Allowables established in PSD-FL-195B and BACT Determination

Table 2-1, Compliance Testing Requirements

Florida Power Corporation
Hines Energy Complex

PROPOSED Permit No.: 1050234-001-AV

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

E.U. ID

Pollutant Name or parameter	Fuel(s)	EPA/Reference Method	Testing Time or Frequency	Frequency Base Date ²	Min. Compl. Test Time	CMS	Permit Condition(s)
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E.U. CT - 001&002

NO _x	Gas	EPA Meth. 20	Initial				A.20
	Oil	EPA Meth. 20					A.20
SO ₂	Oil	F.O. Analysis ¹	Per Delivery ²				A.11, A.12, A.15& A.20
	Gas	Custom Fuel Monitoring ³	Per Delivery ²				A.11, A.12, A.15& A.20
VE	Gas/Oil	EPA Meth. 9	Annual				A.14, A.17, & A.18
PM	Oil	EPA Meth. 5	Annual				A.13, A.18, & A.20
CO	Gas/Oil	EPA Meth. 10	Annual				A.16, A.20

E.U. Aux. Boiler-003

NO _x	Gas						B.5
SO ₂	Gas	Nat. Gas					B.6
VE	Gas	EPA Meth. 9					B.10, B.11, & B.12

E.U. Relocatable Diesel Generator 7775047, -001

SO ₂	Oil	F.O. Analysis ¹	Per Delivery ²				D.8, D.10
VE	Oil	EPA Meth. 9					D.9

¹ Sulfur Content of the fuel oil shall be provided by the supplier for every delivery.

² The custom fuel monitoring schedule in condition A.11.

³ Refer to specific condition A.11.

Table 2-1, Compliance Testing Requirements

Florida Power Corporation
Hines Energy Complex

PROPOSED Permit No.: 1050234-001-AV

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

E.U. ID

Pollutant Name or parameter	Fuel(s)	EPA/Reference Method	Testing Time or Frequency	Frequency Base Date ²	Min. Compl. Test Time	CMS	Permit Condition(s)
-----------------------------	---------	----------------------	---------------------------	----------------------------------	-----------------------	-----	---------------------

E.U. CT - 001&002

NO _x	Gas	EPA Meth. 20	Initial				A.20
	Oil	EPA Meth. 20					A.20
SO ₂	Oil	F.O. Analysis ¹	Per Delivery ²				A.11, A.12, A.15& A.20
	Gas	Custom Fuel Monitoring ³	Per Delivery ²				A.11, A.12, A.15& A.20
VE	Gas/Oil	EPA Meth. 9	Annual				A.14, A.17, & A.18
PM	Oil	EPA Meth. 5	Annual				A.13, A.18, & A.20
CO	Gas/Oil	EPA Meth. 10	Annual				A.16, A.20

E.U. Aux. Boiler-003

NO _x	Gas						B.5
SO ₂	Gas	Nat. Gas					B.6
VE	Gas	EPA Meth. 9					B.10, B.11, & B.12

E.U. Relocatable Diesel Generator 7775047, -001

SO ₂	Oil	F.O. Analysis ¹	Per Delivery ²				D.8, D.10
VE	Oil	EPA Meth. 9					D.9

¹ Sulfur Content of the fuel oil shall be provided by the supplier for every delivery.

² The custom fuel monitoring schedule in condition A.11.

³ Refer to specific condition A.11.

Appendix D-1: Start-up Sequence for Two-on-One Configuration Hines Energy Complex

Start-up of a two-on-one (2 x 1) configuration (i.e., 2 CTs and 1 ST) combined cycle unit requires the integration of 3 independent processes. A simple cycle CT mode, a steam turbine cycle, and the combined cycle mode (which includes either 1 x 1 operation or 2 x 1 operation), are the three processes to be started and synchronized. The 2 x 1 combined cycle mode is the most complex, and therefore, the most conservative to consider in this discussion.

Step 1 - Cold Start * of each CT/HRSG requires approximately 1 hour of firing to stabilize process temperatures at about 20 to 30 percent CT megawatt load. (In the 2 x 1 configuration, there would be a slight lag time between start-up of the first CT and the second CT.) This represents the approximate CT load for heating the HRSG steam in order to attain the necessary HRSG steam energy for the process to become stable and controllable. (Warm start * time requirement is the same for this step.)

Step 2 - Approximately 1 hour is required to match steam turbine metal temperatures to the CT/HRSG steam process, and to achieve steam purity. The steam piping to and from the steam turbine as well as the massive steam turbine shell metals must all be warmed up and be within allowable temperature differentials before proceeding to roll the steam turbine, or significant damage will occur.

Step 3 - Approximately 2 hours to roll and hold the steam turbine in accordance with manufacturer's instructions to raise steam and metal temperatures and raise MW output of both each CT and ST. The CT load must be held to maintain the steam energy to the steam turbine. The steam turbine must be ramped up slowly to avoid thermal stresses per the OEM instructions. Turbine life could be significantly reduced if these instructions were not followed. Several hold points must be observed while ramping up in order to "soak" the turbine. More steam can be routed to the turbine, once its synchronized to the grid.

Step 4 - Raise loading of CT to compliance per manufacturer's recommendations.

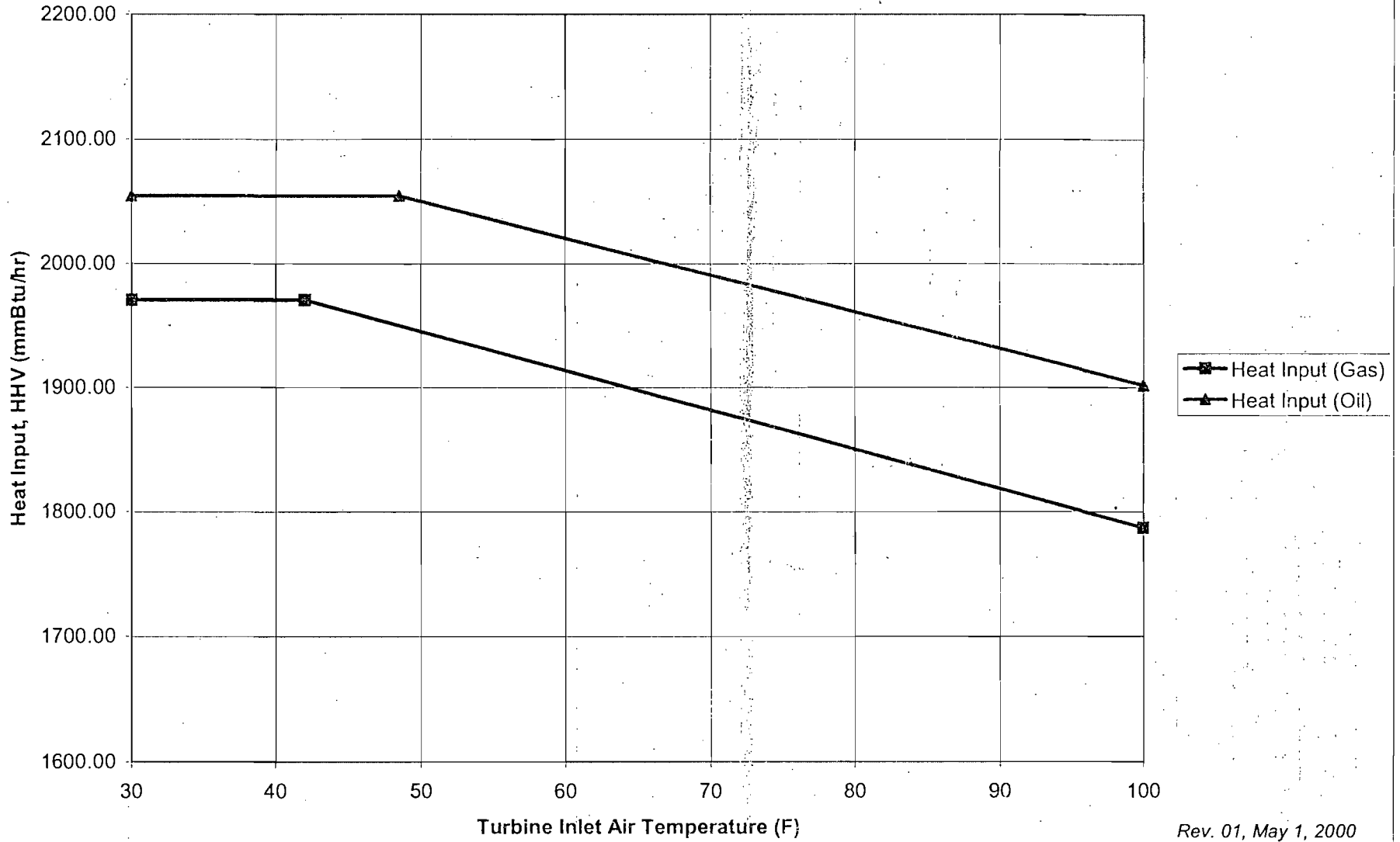
A 3-hour start (termed a warm start) is a Step 3, shortened from 2 hours to 1 hour.

* Note -- Cold start = steam turbine 1st stage throttle temp <400°F
(corresponds to a start following a shutdown > 48 hours).

Warm start = steam turbine 1st stage throttle temp of 400-800°F
(corresponds to a start following a shutdown > 8 hours and less than 48 hours).

Hot start = steam turbine 1st stage throttle temp >800°F
(corresponds to a start following a shutdown < 8 hours).

Hines Energy Complex - Power Block 1 CT Heat Input, HHV (per CT) vs. Turbine Inlet Air Temperature, Rev. 01



Rev. 01, May 1, 2000

Florida Power Corporation - Hines Energy Project
NOx Emission Rates

Gas Fuel		Oil Fuel	
Temp. F	NOx, lb/hr	Temp. F	NOx, lb/hr
20	78.00	20	316.00
21	78.00	21	316.08
22	78.00	22	316.17
23	78.00	23	316.25
24	78.00	24	316.25
25	78.00	25	316.33
26	78.00	26	316.42
27	78.00	27	316.50
28	78.00	28	316.58
29	78.00	29	316.67
30	78.00	30	316.83
31	78.00	31	316.92
32	78.00	32	317.00
33	78.00	33	317.00
34	78.00	34	317.00
35	78.00	35	317.00
36	77.80	36	317.00
37	77.60	37	317.00
38	77.40	38	317.00
39	77.20	39	317.00
40	77.00	40	317.00
41	76.79	41	317.00
42	76.58	42	317.00
43	76.37	43	317.00
44	76.16	44	316.25
45	75.95	45	315.50
46	75.74	46	314.75
47	75.53	47	314.00
48	75.32	48	313.25
49	75.11	49	312.50
50	74.89	50	311.75
51	74.68	51	311.00
52	74.47	52	310.25
53	74.26	53	309.50
54	74.05	54	308.75
55	73.84	55	308.00
56	73.63	56	307.25
57	73.42	57	306.50
58	73.21	58	305.75
59	73.00	59	305.00
60	72.85	60	304.46
61	72.69	61	303.92
62	72.54	62	303.38
63	72.38	63	302.85
64	72.23	64	302.31
65	72.08	65	301.77
66	71.92	66	301.23
67	71.77	67	300.69
68	71.62	68	300.15
69	71.46	69	299.62

Florida Power Corporation - Hines Energy Project
 NOx Emission Rates

70	71.31	70	299.08
71	71.15	71	298.54
72	71.00	72	298.00
73	70.86	73	297.23
74	70.71	74	296.46
75	70.57	75	295.69
76	70.43	76	294.92
77	70.29	77	294.15
78	70.14	78	293.38
79	70.00	79	292.62
80	69.83	80	291.85
81	69.67	81	291.08
82	69.50	82	290.31
83	69.33	83	289.54
84	69.17	84	288.77
85	69.00	85	288.00
86	68.80	86	287.30
87	68.60	87	286.60
88	68.40	88	285.90
89	68.20	89	285.20
90	68.00	90	284.50
91	67.80	91	283.80
92	67.60	92	283.10
93	67.40	93	282.40
94	67.20	94	281.70
95	67.00	95	281.00

Appendix U-1, List of Unregulated Emissions Units and Activities

Florida Power Corporation
Hines Energy Complex

PROPOSED Permit No.: 1050234-001-AV

Unregulated Emissions Units and/or Activities. An emissions unit which emits no "emissions-limited pollutant" and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards.

The below listed emissions units and/or activities are neither 'regulated emissions units' nor 'exempt emissions units'.

E.U. ID

No.

Brief Description of Emissions Units and/or Activities

-xxx

Three Lube Oil Storage Tanks
(two with 7000 gallon capacity, one with 5550 gallon capacity)

Two Waste Oil Storage Tanks (500 gallon capacity)

One No. 2 Fuel Oil Storage Tank (3.80 million gallon capacity)

One Diesel Fuel Storage Tank (300-gallon capacity)

One Ammonium Storage Tank (30,000 gallon capacity)

One Sodium Hypochlorite Storage Tank (4800 gallon capacity)

Fuel loading and unloading activities

Lube oil vents with demisters

Non-halogenated solvents

Appendix I-1, List of Insignificant Emissions Units and/or Activities

Florida Power Corporation
Hines Energy Complex

PROPOSED Permit No.: 1050234-001-AV

The facilities, emissions units, or pollutant-emitting activities listed in Rule 62-210.300(3)(a), F.A.C., Categorical Exemptions, are exempt from the permitting requirements of Chapters 62-210 and 62-4, F.A.C.; provided, however, that exempt emissions units shall be subject to any applicable emission limiting standards and the emissions from exempt emissions units or activities shall be considered in determining the potential emissions of the facility containing such emissions units. Emissions units and pollutant-emitting activities exempt from permitting under Rule 62-210.300(3)(a), F.A.C., shall not be exempt from the permitting requirements of Chapter 62-213, F.A.C., if they are contained within a Title V source; however, such emissions units and activities shall be considered insignificant for Title V purposes provided they also meet the criteria of Rule 62-213.430(6)(b), F.A.C. No emissions unit shall be entitled to an exemption from permitting under Rule 62-210.300(3)(a), F.A.C., if its emissions, in combination with the emissions of other units and activities at the facility, would cause the facility to emit or have the potential to emit any pollutant in such amount as to make the facility a Title V source.

The below listed emissions units and/or activities are considered insignificant pursuant to Rule 62-213.430(6), F.A.C.

Brief Description of Emissions Units and/or Activities

1. Sand blaster, welding, lathes, hand-held tools; etc.
2. Diesel generator.
3. Fire water tank(s).
4. Brazing, soldering, or welding equipment.
5. Fire and safety equipment.
6. Surface coating operations within a single facility if the total quantity of coatings containing greater than 5.0 percent VOCs, by volume, used is 6.0 gallons per day or less, averaged monthly provided:
 - a. Such operations are not subject to a volatile organic compound Reasonably Available Control Technology (RACT) requirement of Chapter 62-296, F.A.C.; and
 - b. The amount of coatings used shall include any solvents and thinners used in the process including those used for cleanup.

Appendix H-1, Permit History/ID Number Changes

Florida Power Corporation
Hines Energy Complex Power Block 1

Facility ID No.: 1050234

Permit History (for tracking purposes):

<u>E.U. ID No.</u>	<u>Description</u>	<u>Permit No.</u>	<u>Issue Date</u>	<u>Expiration Date</u>	<u>Extended Date^{1,2}</u>	<u>Revised Date(s)</u>
-001 & -002	Combined Cycle Combustion Turbines	AC PSD-FL-195	12/14/92	10/30/95	11/1/96	3/18/96 6/17/94
		AC 1050234-002 PSD-FL-195A	5/27/99	5/27/04		
		AC 1050234-003 PSD-FL-195B	8/16/00	8/16/05		
-003	Steam Boiler	PSD-FL-195	12/14/92	10/30/95	11/1/96	3/18/96
-004	Diesel Generator	PSD-FL-195	12/14/92	10/30/95	11/1/96	3/18/96
7775047	Relocatable Diesel Fired Generator	AC 09-202080				

Notes:

1 - AO permit(s) automatic extension(s) in Rule 62-210.300(2)(a)3.a., F.A.C., effective 03/21/96.

2 - AC permit(s) automatic extension(s) in Rule 62-213.420(1)(a)4., F.A.C., effective 03/20/96.

{Rule 62-213.420(1)(b)2., F.A.C., allows Title V Sources to operate under existing valid permits that were in effect at the time of application until the Title V permit becomes effective}

Memorandum

Florida Department of Environmental Protection

TO: Clair Fancy
THRU: Scott Sheplak
FROM: Russell Wider
DATE: March 6, 2001
SUBJECT: Florida Power Corporation - Hines Energy Complex Power Block 1
DEP File No. 1050234-001-AV

Attached for approval and signature is the PROPOSED Title V permit for Florida Power's Hines Energy Complex. Hines Energy consists of two combined cycle combustion turbines with heat recovery steam generators (HRSGs), for a nominal total of 500 MWs, a 99 MMBtu/hr auxiliary boiler, a 1,300 kW diesel generator and a 97,570 barrel fuel oil storage tank. The two combustion turbines are regulated under 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted and incorporated by reference in Rule 62-204.800(7), F.A.C. and Acid Rain, Phase II.

We received twenty comments from Florida Power Corporation regarding the DRAFT permit. All issues and concerns were resolved and incorporated into this PROPOSED permit.

I recommend your signature.

Attachments

/raw

cc: Scott Sheplak, P.E.



Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

PROPOSED Permit Electronic Posting Courtesy Notification

Florida Power Corporation
Hines Energy Complex
Facility ID No.: 1050234
Polk County

Initial Title V Air Operation Permit
PROPOSED Permit No.: 1050234-001-AV

The electronic version of the PROPOSED permit was posted on the Division of Air Resources Management's world wide web site for the United States Environmental Protection Agency (USEPA) Region 4 office's review on March 19, 2001.

USEPA's review period ends on the 45th day after the permit posting date. Day 45 is May 2, 2001. If an objection (veto) is received from USEPA, the permitting authority will provide a copy of the objection to the applicant.

Provided an objection is not received from USEPA, the PROPOSED permit will become a FINAL permit by operation of law on the 55th day after the permit posting date. Day 55 is May 12, 2001.

The web site address is <http://www2.dep.state.fl.us/air>.

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