

FINAL Determination

Title V Air Operation Permit Revision
FINAL Permit Project No.: 1050234-008-AV
Progress Energy Florida
Hines Energy Complex, Power Block 2
Page 1 of 1

I. Comment(s).

No comments were received from the USEPA during their 45 day review period of the PROPOSED Permit.

II. Conclusion.

In conclusion, the permitting authority hereby issues the FINAL Permit.

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

Title V Air Operation Permit Revision
FINAL Permit No.: 1050234-008-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:

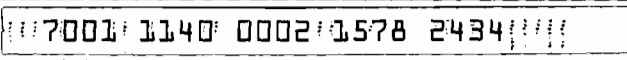
Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, FL 33619-8218
Telephone: 813/744-6100
Fax: 813/744-6084

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- Print your name and address on the reverse so that we can return the card to you.
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1. Article Addressed to:
 Mr. Roger Zirkle, Plant Manager
 Progress Energy Florida
 Hines Energy Complex
 100 Central Avenue BB1A
 St. Petersburg, Florida 33701-5511

2. Article Number
 (Transfer from service label)



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 X *[Signature]* Agent Addressee

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PS Form 3811, August 2001

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 City, State, ZIP+4
 St. Petersburg, Florida 33701-5511

PS Form 3800, January 2001

See Reverse for Instructions

NOTICE OF FINAL TITLE V AIR OPERATION PERMIT REVISION

In the Matter of an
Application for Permit Revision by:

Mr. Roger Zirkle, Plant Manager
Progress Energy Florida, Hines Energy Complex
100 Central Avenue BB1A-HE44St. Petersburg, Florida
33701-5511

FINAL Permit Project No.: 1050234-008-AV
Hines Power Block 2
Polk County

Enclosed is the FINAL Permit, No. 1050234-008-AV, for the Title V Air Operation Revision. The purpose is to incorporate the terms and conditions of the PSD permit which allowed for the construction and operation of Power Block 2. The facility is located in Polk County. This permit revision is issued pursuant to Chapter 403, Florida Statutes (F.S.). There were no comments received from Region 4, U.S. EPA, regarding the PROPOSED Permit.

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

Executed in Tallahassee, Florida.

Trina Vielhauer
Trina Vielhauer, Chief
Bureau of Air Regulation

/mph

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL TITLE V AIR OPERATION PERMIT REVISION (including the FINAL Determination and the FINAL Permit) was sent by certified mail before the close of business on 11/22/04 to the person(s) listed or as otherwise noted:

Roger Zirkle, Plant Manager

The undersigned duly designated deputy agency clerk hereby certifies that a copy of this NOTICE OF FINAL TITLE V AIR OPERATION PERMIT REVISION was sent by U.S. Mail before the close of business on 11/22/04 to the person(s) listed or as otherwise noted:

Ken Kosky, P.E., Golder
Dave Meyer, P.E., Senior Environmental Specialist
Hamilton S. Oven, P.E. Gerald Kissel, DEP-SWD
Polk County Public Works Dept.
USEPA, Region 4 (INTERNET E-mail Memorandum)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Barbara J. Friday 11/22/04
(Clerk) (Date)

STATEMENT OF BASIS

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

Title V Air Operation Permit Revision
FINAL Permit No.: 1050234-008-AV

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.

Based on the initial Title V permit application received January 19, 1999, and the Title V application for permit revision received February 16, 2004 this facility is a major source of hazardous air pollutants (HAPs).

This facility consists of two combined cycle combustion turbines with heat recovery steam generators (HRSGs) (Units 1 and 2), for a nominal total of 500 MWs, a 99 MMBtu/hr auxiliary boiler, a 1,300 kW diesel generator, a 97,570 barrel fuel oil storage tank, and relocatable diesel generators that can be located at various Florida Power Corporation power plants, as needed. Emissions from each CT and HRSG combination are vented through a single stack for each. The combustion turbines may fire fuel oil or natural gas.

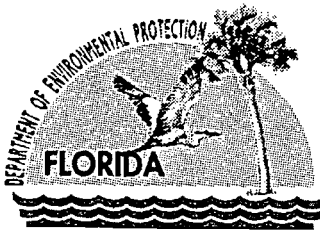
This revision incorporates the addition of Power Block 2 to the existing facility, which was permitted under PSD-FL-296A. Power Block 2 consists of two combined cycle combustion turbines with unfired heat recovery steam generators (HRSGs), and a single steam-turbine electrical generator. The entire facility (inclusive of both Power Blocks) has a total generating capacity of 1030 MW.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

Title V Air Operation Permit Revision
FINAL Permit No.: 1050234-008-AV

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Jeb Bush
Governor

Department of Environmental Protection

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

Colleen M. Castille
Secretary

Permittee:

Progress Energy Florida
100 Central Avenue, BB1A-HE4
St. Petersburg, Florida 33701-5511

FINAL Permit No.: 1050234-008-AV

Facility ID No.: 1050234

SIC Nos.: 49, 4911

Project: Title V Air Operation Permit Revision

This revision is for the incorporation of Power Block 2 at the existing 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.

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-4, Title V Conditions version dated 02/12/02
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

Revision Effective Date: November 1, 2004

Renewal Application Due Date: July 5, 2006

Expiration Date: December 31, 2006

Michael G. Cooke, Director
Division of Air Resource
Management

MGC/tv/mp

"More Protection, Less Process"

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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.

Power Block 2 consists of two combined cycle combustion turbines with unfired heat recovery steam generators (HRSGs), and a single steam-turbine electrical generator. The entire facility (inclusive of both Power Blocks) has a total generating capacity of 1030 MW.

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, and the Title V application for permit revision received February 16, 2004 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
-014	170 MW Westinghouse 501FD CT2A
-015	170 MW Westinghouse 501FD CT2B
-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, 2004.

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.

Title V Permit Revision Application received February 16, 2004.

Section II. Facility-wide Conditions.

The following conditions apply facility-wide:

1. APPENDIX TV-4, TITLE V CONDITIONS, is a part of this permit.
{Permitting note: APPENDIX TV-4, 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
P.O. Box 1515
Lanham-Seabrook, Maryland 20703-1515
Telephone: 301/429-5018

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-4, 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 H.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:

FUEL BOUND NITROGEN NO_x LEVELS		NO_x EMISSIONS	
<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 (CO_2 or O_2). 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 **H.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 **H.1.** through **H.22.** contained in **Subsection H. 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 **H.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 **H.1** through **H.22.** contained in **Subsection H. 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]

C3. 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]

C.7. This emissions unit is also subject to conditions **H.1** through **H.22.** contained in **Subsection H. 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 Progress Energy Florida 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. Progress Energy Florida 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 **H.1.** through **H.22.**, except for **H.4.**, contained in **Subsection H. Common Conditions.**

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

<u>E.U. ID No.</u>	<u>Brief Description</u>
-014	170 MW Westinghouse 501FD CT2A
-015	170 MW Westinghouse 501FD CT2B

Emission units 014 and 015 each consist of a combined cycle Westinghouse 501FD 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) for natural gas firing and wet injection for fuel oil firing, complete with Selective Catalytic Reduction (SCR). Each combustion turbine incorporates an unfired heat recovery steam generator.

{Permitting notes: These emissions unit are 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-296A; 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

E.1. Permitted Capacity. The maximum heat input rate to each gas turbine is 1,915 MMBtu per hour when firing natural gas and 2,020 MMBtu per hour when firing distillate oil (based on a compressor inlet air temperature of 59 °F, the HHV of each fuel, and 100% load). Heat input rates will vary depending upon gas turbine characteristics, ambient conditions, alternate fuels, and evaporative cooling. The permittee shall provide manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 45 days of completing the initial compliance testing. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [Rule 62-210.200(PTE), F.A.C. and PSD-FL-296A]

E.2. Equipment and Controls - Gas Turbines: The permittee is authorized to install, tune, operate, and maintain two Siemens Westinghouse Model 501 FD gas turbine-electrical generator sets each with a generating capacity of 170 MW. Each gas turbine shall include the Siemens TXP automated gas turbine control system and have dual-fuel capability. The gas turbines will utilize DLN combustors. [Application; Design]

a. Gas Turbine NO_x Controls

1. DLN Combustion: The permittee shall operate and maintain the DLN combustion system to control NO_x emissions from each gas turbine when firing natural gas. Prior to the initial emissions performance tests required for each gas turbine, the DLN combustors and automated gas turbine control system shall be tuned, in conjunction with any post-combustion emissions control equipment, to achieve the permitted levels for CO and NO_x emissions. Thereafter, each system shall be maintained and tuned in accordance with the manufacturer's recommendations.

2. Water Injection: The permittee shall install, operate, and maintain a water injection system to reduce NOx emissions from each gas turbine when firing distillate oil. Prior to the initial emissions performance tests required for each gas turbine, the water injection system shall be tuned, in conjunction with any post-combustion emissions control equipment, to achieve the permitted levels for CO and NOx emissions. Thereafter, each system shall be maintained and tuned in accordance with the manufacturer's recommendations.
3. SCR System: The permittee shall install, tune, operate, and maintain a SCR system to control NOx emissions from each gas turbine when firing either natural gas or distillate oil. The SCR system consists of an ammonia injection grid, catalyst, ammonia storage, monitoring and control system, electrical, piping and other ancillary equipment. The SCR system shall be designed, constructed and operated to achieve the permitted levels for NOx emissions and ammonia slip. *{Permitting Note: In accordance with 40 CFR 60.130, the storage of ammonia shall comply with all applicable requirements of the Chemical Accident Prevention Provisions in 40 CFR 68.}*

[Design; Rule 62-212.400(BACT), F.A.C.]

- b. HRSGs: The permittee is authorized to install, operate, and maintain two HRSGs. Each HRSG shall be designed to recover heat energy from one of the two gas turbines (CT 2A or CT 2B) and deliver steam to the steam turbine-electrical generator through a common manifold. *{Permitting Note: The two HRSGs deliver steam to a single steam turbine-electrical generator with a generating capacity of 190 MW.}* [Application; Design]
- c. CO Controls: The permittee shall design and construct the HRSGs such that an oxidation catalyst can be readily installed if necessary to achieve compliance with the CO emission limitations. [Rule 62-4.070(3), F.A.C.]

E.3. Methods of Operation - Subject to the restrictions and requirements of this permit, the gas turbines may operate under the following methods of operation.

- a. Hours of Operation: Subject to the other operational restrictions of this permit, the gas turbines may operate throughout the year (8,760 hours per year).
- b. Authorized Fuels: Each gas turbine shall fire natural gas as the primary fuel, which shall contain no more than 1.0 grains of sulfur per 100 standard cubic feet of natural gas. As a restricted alternate fuel, each gas turbine may fire No. 2 distillate oil (or a superior grade) containing no more than 0.05% sulfur by weight. Distillate fuel oil consumption of both emissions units shall not exceed 19,703,000 gallons in any consecutive 12 month period. *{Permitting Note: This condition limits annual average fuel oil consumption to the equivalent of approximately 720 hours of operation per year per turbine, based on 59 °F annual average temperature. Fuel oil consumption is not limited per turbine, and the allowable fuel may be used in a single turbine.}*
- c. Combined Cycle Operation: Each gas turbine/HRSG system may operate to produce direct, shaft-driven electrical power and steam-generated electrical power from the steam turbine-electrical generator as a "2-on-1" combined cycle unit subject to the restrictions of this permit. In accordance with the specifications of the SCR and HRSG manufacturers, the SCR system shall be on line and functioning properly during combined cycle operation or when the HRSG is producing steam.

- d. Ammonia Injection: Ammonia injection shall begin as soon as operation of the gas turbine/HRSG system achieves the operating parameters specified by the manufacturer.

[Application: Rules 62-210.200(PTE), 62-212.400(BACT), F.A.C. and PSD-FL-296A]

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.}

E.4. Emissions Standards: Emissions from each gas turbine/HRSG shall not exceed the following limits for the listed pollutants at any ambient temperature.

{Permitting note: Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.}

Pollutant	Emission Limit (ppmvd corrected to 15% oxygen)		Averaging Time
	Natural Gas	Fuel Oil	
CO ^a	16	30	24 hour block
NOx ^b	3.5	12	24 hour block
VOC ^c	2	10	3 hours
Ammonia ^d	5	9	3 hours

Pollutant	Fuel Specification and Emission Limit
PM/PM10 ^e	Fuel specifications. Visible emissions shall not exceed 10% opacity for each 6-minute block average.
SAM/SO2 ^f	Fuel specifications.

- a. Compliance with the CO standards shall be demonstrated based on data collected by the required CEMS. Compliance with the 24-hour CO CEMS standards shall be determined separately based on the hours of operation for each alternative fuel. {Permitting Note: A 24-hour compliance average may be based on as little as 1-hour of CEMS data or as much as 24-hours of CEMS data.}
- b. Compliance with the NOx standards shall be demonstrated based on data collected by the required CEMS. NOx mass emission rates are defined as oxides of nitrogen expressed as NO2. Compliance with the 24-hour NOx CEMS standards shall be determined separately based on the hours of operation for each alternative fuel. {Permitting Note: A 24-hour compliance average may be based on as little as 1-hour of CEMS data or as much as 24-hours of CEMS data.}
- c. Compliance with the VOC standards shall be demonstrated by conducting tests in accordance with EPA Method 25A. Optionally, EPA Method 18 may also be performed to deduct emissions of methane and ethane. The emission standards are based on VOC measured as propane.

- d. Subject to the requirements of this permit, each SCR system shall be designed and operated for an initial ammonia slip target of less than 5 ppmvd corrected to 15% oxygen when firing natural gas based on the average of three test runs. Compliance with the ammonia slip standard shall be demonstrated by conducting tests in accordance with EPA Method CTC-027.
- e. The fuel specifications established in Specific Condition No. E.3. of this section combined with the efficient combustion design and operation of each gas turbine represents the BACT determination for PM/PM10 emissions. Compliance with the fuel specifications, CO standards, and visible emissions standards shall serve as indicators of good combustion. Compliance with the fuel specifications shall be demonstrated by keeping records of the fuel sulfur content. Compliance with the visible emissions standard shall be demonstrated by conducting tests in accordance with EPA Method 9.
- f. The fuel sulfur specifications in Condition No. E.3. of this section effectively limit the potential emissions of SAM and SO₂ from the gas turbines and represent the BACT determination for these pollutants. Compliance with the fuel sulfur specifications shall be determined by the requirements in Specific Condition No. E.18. of this section.

{Permitting Note: The concentration limits and fuel specifications for the control of the above pollutants are equivalent to the following mass emission rates (at 20 °F):

- CO = 73.6 lb/hr for natural gas firing and 112 lb/hr for distillate fuel oil firing.
- NO_x = 25.2 lb/hr for natural gas firing and 93.5 lb/hr for distillate fuel oil firing.
- VOC = 4.7 lb/hr for natural gas firing and 22 lb/hr for distillate fuel oil firing.
- PM₁₀ = 7.3 lb/hr for natural gas firing and 64.8 lb/hr for distillate fuel oil firing, and
- SO₂ = 5.6 lb/hour for natural gas firing and 105.6 lb/hr for distillate fuel oil firing.

SAM emissions are estimated to be less than 10% of the SO₂ emissions. [Rule 62-212.400(BACT), F.A.C.]

[Rules 62-210.200(PTE), 62-212.400(BACT), F.A.C. and PSD-FL-296A]

Excess Emissions

E.5. Excess emissions caused entirely or in part by poor maintenance, poor operation or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. All such preventable emissions shall be included in any compliance determinations based on CEMS data. [Rule 62-210.700(4), F.A.C. and PSD-FL-296A]

{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.}

E.6. Visible emissions due to startups, shutdowns, and malfunctions shall not exceed 10% opacity except for up to ten, 6-minute averaging periods during a calendar day, which shall not exceed 20% opacity. [Rule 62-212.400(BACT), F.A.C. and PSD-FL-296A]

Monitoring of Operations

E.7. The BACT determinations established by this permit rely on “good operating practices” to reduce emissions. Therefore, all operators and supervisors shall be properly trained to operate and maintain the gas turbines, HRSGs, and pollution control systems in accordance with the guidelines and procedures established by each manufacturer. The training shall include good operating practices as well as methods of minimizing excess emissions. [Rules 62-4.070(3), 62-212.400(BACT), F.A.C. and PSD-FL-296A]

E.8. CEMS Data Exclusion: As provided in this paragraph, NOx and CO emissions data recorded during periods of startup, shutdown, oil-to-gas fuel switches, and documented malfunctions may be excluded from the block average calculated to demonstrate compliance with the emission limits herein.

- a. Periods of data excluded for startup shall not exceed two hours in any 24-hour block except for cold startups. A “cold startup” is defined as a startup following a complete shutdown lasting a minimum of 48 hours. Periods of data excluded for cold startup shall not exceed four hours in any 24-hour block period.
- b. Periods of data excluded for shutdown shall not exceed two hours in any 24-hour block.
- c. Periods of data excluded for oil-to-gas fuel switches shall not exceed two hours in any 24-hour block.
- d. Periods of data excluded for documented malfunctions shall not exceed two hours in any 24-hour block. A “documented malfunction” means a malfunction that meets the notification requirements specified in Condition E.19. of this section.
- e. All periods of data excluded for any startup, shutdown, oil-to-gas fuel switch, or documented malfunction shall be consecutive for each episode. Periods of data excluded for all startups, shutdowns, oil-to-gas fuel switches, or documented malfunctions shall not exceed six hours in any 24-hour block period during which a cold startup occurred. For all other 24-hour block periods, periods of data excluded for all startups, shutdowns, oil-to-gas fuel switches, or documented malfunctions shall not exceed four hours.
- f. The permittee shall minimize the duration of data excluded to the extent practicable. Data shall not be excluded if the startup, shutdown, or documented malfunction was caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably have been prevented. Best operating practices shall be used to minimize hourly emissions that occur during episodes of startup, shutdown, oil-to-gas fuel switching, or documented malfunction.

[Rules 62-212.400(BACT), 62-210.700, F.A.C. and PSD-FL-296A]

E.9. CEMS Data Exclusion – DLN Tuning: CEMS data collected during initial or other major DLN tuning sessions shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer’s specifications. A “major tuning session” would occur after completion of initial construction, a combustor change-out, a major repair or maintenance to a combustor, or other similar circumstances. Prior to performing any major tuning session, the permittee shall provide the Compliance Authority with an advance notice that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail. [Rule 62-4.070(3), F.A.C. and PSD-FL-296A]

E.10. Tests Required

- a. Initial Compliance Determinations: Each gas turbine shall be stack tested to demonstrate initial compliance with the emission standards for CO, NO_x, VOC, visible emissions, and ammonia slip. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup of each unit. Each unit shall be tested when firing natural gas and when firing distillate fuel oil. CEMS data collected during the required Relative Accuracy Test Assessments (RATA) may be used to demonstrate compliance with the initial CO and NO_x standards. CO and NO_x emissions recorded by the CEMS shall also be reported for each run during tests for visible emissions, VOC and ammonia slip. The Department may require the permittee to conduct additional tests after major replacement or major repair of any air pollution control equipment, such as the SCR catalyst, DLN combustors, etc. [Rule 62-297.310(7)(a)1., F.A.C. and 40 CFR 60.8]
- b. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), each gas turbine shall be tested to demonstrate compliance with the emission standards for visible emissions and ammonia.
 1. Visible Emissions. Each unit shall be tested for visible emissions when firing natural gas and when firing distillate fuel oil. Annual emissions testing while firing fuel oil is not required during any federal fiscal year in which less than 5,473,000 gallons of distillate fuel oil is fired in both emission units combined. CO emissions recorded by the CEMS shall be reported for the visible emissions observation period. {Permitting Note: The fuel limitation for waiving testing while firing distillate fuel oil corresponds to the equivalent of approximately 200 hours of operation per year per turbine.}
 2. Ammonia. Annual testing to determine the ammonia slip shall be conducted while firing natural gas. NO_x emissions recorded by the CEMS shall be reported for each ammonia slip test run.

{Permitting Note: After initial compliance with the VOC standards is demonstrated, annual compliance tests for VOC emissions are not required. Compliance with the continuously monitored CO standards shall indicate efficient combustion and low VOC emissions.} [Rules 62-212.400 (BACT) and 62-297.310(7)(a)4., F.A.C.]
- c. Continuous Compliance: The permittee shall demonstrate continuous compliance with the CO and NO_x emissions standards based on data collected by the certified CEMS. Within 45 days of conducting any RATA on a CEMS, the permittee shall submit a report to the Compliance Authority summarizing results of the RATA. {Permitting Note: Compliance with the CO emission standards also serves as an indicator of efficient fuel combustion, which reduces emissions of PM/PM₁₀ and VOC.} [Rule 62-212.400 (BACT), F.A.C.]

[PSD-FL-296A]

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.}

E. 11. Test Methods: Any required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
CTM-027	<i>Procedure for Collection and Analysis of Ammonia in Stationary Sources</i> This is an EPA conditional test method. The minimum detection limit shall be 1 ppm.
7E	<i>Determination of Nitrogen Oxide Emissions from Stationary Sources (Instrumental Analyzer Procedure)</i>
9	<i>Visual Determination of the Opacity of Emissions from Stationary Sources</i> The test shall be conducted for a minimum of 30 minutes.
10	<i>Determination of Carbon Monoxide Emissions from Stationary Sources</i> This method shall be based on a continuous sampling train.
18	<i>Measurement of Gaseous Organic Compound Emissions by Gas Chromatography</i> (Optional) EPA Method 18 may be used concurrently with EPA Method 25A to deduct emissions of methane and ethane from the measured VOC emissions.
20	<i>Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines</i>
25A	<i>Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer</i>

Method CTM-027 is published on EPA's Technology Transfer Network Web Site at <http://www.epa.gov/ttn/emc/ctm.html>. The other methods are described in Appendix A of 40 CFR 60, adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800, F.A.C.; 40 CFR 60, Appendix A]

E. 12. Operating Procedures: The BACT determinations established by this permit rely on "good operating practices" to reduce emissions. Therefore, all operators and supervisors shall be properly trained to operate and maintain the gas turbines, HRSGs, and pollution control systems in accordance with the guidelines and procedures established by each manufacturer. The training shall include good operating practices as well as methods of minimizing excess emissions. [Rules 62-4.070(3), 62-212.400(BACT), F.A.C. and PSD-FL-296A]

Continuous Monitoring Requirements

E.13. CEMS: The permittee shall install, calibrate, maintain, and operate CEMS to measure and record the emissions of CO and NO_x from the combined cycle gas turbine. The CEMS shall be used to demonstrate continuous compliance with the CEMS emission standards specified in this permit. Upon request by the Department, the CEMS emission rates shall be corrected to ISO conditions to demonstrate compliance with the applicable standards of 40 CFR 60.332. Each monitoring system shall be installed, calibrated, and properly functioning prior to the initial performance tests. Within one working day of discovering emissions in excess of a CO or NO_x standard (and subject to the specified averaging period), the permittee shall notify the Compliance Authority.

- a. CO Monitors. Except as otherwise specified by this condition, the CO monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A.

Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of Section 7 shall be made each calendar quarter, and reported semiannually to the Compliance Authority. The RATA tests required for the CO monitor shall be performed using EPA Method 10 in Appendix A of 40 CFR 60. The Method 10 analysis shall be based on a continuous sampling train, and the ascarite trap may be omitted or the interference trap of Section 10.1 may be used in lieu of the silica gel and ascarite traps. The CO monitor shall be a dual range monitor. The span for the lower range shall not be greater than 50 ppm. The span for the upper range shall be set at a level that provides for accurate measurement during startups and shutdowns.

- b. *NOx Monitors.* Except as otherwise specified by this condition, the NOx monitor shall be certified pursuant to 40 CFR 75, and shall be operated and maintained in accordance with the applicable requirements of 40 CFR 75, Subparts B and C. Record keeping and reporting shall be conducted pursuant to 40 CFR 75, Subparts F and G. The RATA tests required for the NOx monitor shall be performed using EPA Method 20 or 7E in Appendix A of 40 CFR 60. The NOx monitor shall be a dual range monitor. The span for the lower range shall not be greater than 10 ppm. The span for the upper range shall be set at a level that provides for accurate measurement during startups and shutdowns.
- c. *Diluent Monitors.* The oxygen or carbon dioxide (CO₂) content of the flue gas shall be monitored at the location where CO and NOx are monitored to correct the measured emissions rates to 15% oxygen. If a CO₂ monitor is installed, the oxygen content of the flue gas shall be calculated using F-factors that are appropriate for the fuel fired. Each monitor shall comply with the performance and quality assurance requirements of 40 CFR 75.
- d. *Moisture Correction.* Final results of the CEMS shall be expressed as ppmvd corrected to 15% oxygen. If the CEMS measures concentration on a wet basis, the CEMS shall include provisions to determine the moisture content of the exhaust gas and an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Alternatively, the permittee may develop through manual stack test measurements a curve of moisture contents in the exhaust gas versus load for each allowable fuel, and use these typical values in an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). If the CEMS measures concentration on a wet basis and the diluent monitor measures CO₂ on a wet basis, then the permittee may develop an algorithm to enable correction of the CEMS results to a dry basis (0% moisture) without determining the corresponding moisture content.
- e. *1-Hour Block Averages.* Hourly average values shall begin at the top of each hour. Each hourly average value shall be computed using at least one data point in each fifteen-minute quadrant of an hour, where the unit combusted fuel during that quadrant of an hour. Notwithstanding this requirement, an hourly value shall be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant of an hour). If less than two such data points are available, the hourly average value is not valid. An hour in which any oil is fired is attributed towards compliance with the permit standards for oil firing. The permittee shall use all valid measurements or data points collected during an hour to calculate the hourly average values. The CEMS shall be designed and operated to sample, analyze, and record data evenly spaced over an hour.
- f. *24-hour Block Averages:* A 24-hour block shall begin at midnight of each operating day and shall be calculated from 24 consecutive hourly average emission rate values. If a

unit operates less than 24 hours during the block, the 24-hour block average shall be the average of available valid hourly average emission rate values for the 24-hour block. For purposes of determining compliance with the 24-hour CEMS emissions standards of this permit, missing (or excluded) data shall not be substituted. Instead, the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block. *{Permitting Note: There may be more than one 24-hour compliance demonstration required for CO and NOx emissions depending on the use of alternate fuels}.* [Rule 62-212.400(BACT), F.A.C.]

- g. Data Exclusion. Each CEMS shall monitor and record emissions during all operations including episodes of startup, shutdown, malfunction, fuel switches, and DLN tuning. CEMS emissions data recorded during some of these episodes may be excluded from the corresponding CEMS compliance demonstration subject to the provisions of Condition Nos. E.8. and E.9.
- h. Availability. Monitor availability for the CEMS shall be 95% or greater in any calendar quarter. The quarterly permit excess emissions report shall be used to demonstrate monitor availability. In the event 95% availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit, except as otherwise authorized by the Department's Compliance Authority.

{Permitting Note: Compliance with these requirements assures compliance with the other applicable CEM system requirements such as: NSPS Subpart GG; Rule 62-297.520, F.A.C.; 40 CFR 60.7(a)(5) and 40 CFR 60.13; 40 CFR 60, Appendix B - Performance Specifications; and 40 CFR 60, Appendix F - Quality Assurance Procedures.} [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

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E.14. Water Injection Monitoring Requirements: In accordance with the manufacturer's specifications, the permittee shall install, calibrate, operate and maintain a monitoring system to continuously measure and record the water-to-fuel ratio when firing distillate oil. The permittee shall document the water-to-fuel ratio required to meet permitted emissions levels over the range of load conditions allowed by this permit. The NOx CEMS is used to demonstrate compliance with the NOx emissions standards. During NOx CEMS downtimes or malfunctions, the permittee shall monitor the water-to-fuel ratio and operate at a level that is consistent with the documented flow rate for the gas turbine load condition. [Rules 62-4.070(3), 62-212.400(BACT), F.A.C. and PSD-FL-296A]

E.15. Ammonia Monitoring Requirements: In accordance with the manufacturer's specifications, the permittee shall install, calibrate, operate and maintain an ammonia flow meter to measure and record the ammonia injection rate to the SCR system. The permittee shall document the general range of ammonia flow rates required to meet permitted emissions levels over the range of load conditions allowed by this permit by comparing NOx emissions recorded by the CEM system with ammonia flow rates recorded using the ammonia flow meter. During NOx monitor downtimes or malfunctions, the permittee shall operate at the ammonia flow rate

that is consistent with the documented flow rate for the combustion turbine load condition. [Rules 62-4.070(3), 62-212.400(BACT), F.A.C. and PSD-FL-296A]

Recordkeeping and Reporting Requirements

E.16. Monitoring of Operation: To demonstrate compliance with the fuel consumption limits of this permit, the permittee shall record the distillate fuel oil consumption on a rolling 12-month basis. [Rules 62-4.070(3), 62-212.400, F.A.C., and PSD-FL-296A]

E.17. Frequency of Recordkeeping: Condition E.12. of this section requires the calculation of one or more 24-hour block average emission rates for each operating day. Within 24 hours of the conclusion of each operating day, the permittee shall complete the calculations and record the results for that operating day. [Rule 62-4.070(3), F.A.C. and PSD-FL-296A]

E.18. Fuel Sulfur Records: The permittee shall demonstrate compliance with the fuel sulfur limits specified in this permit by maintaining the following records of the sulfur contents.

- a. Compliance with the fuel sulfur limit for natural gas shall be demonstrated by keeping reports obtained from the vendor indicating the average sulfur content of the natural gas being supplied from the pipeline for each month of operation. Methods for determining the sulfur content of the natural gas shall be ASTM methods D4084-82, D3246-81 or more recent versions.
- b. Compliance with the distillate oil sulfur limit shall be demonstrated by taking a sample, analyzing the sample for fuel sulfur, and reporting the results to each Compliance Authority before initial startup. Sampling the fuel oil sulfur content shall be conducted in accordance with ASTM D4057-88, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, and one of the following test methods for sulfur in petroleum products: ASTM D129-91, ASTM D1552-90, ASTM D2622-94, or ASTM D4294-90. More recent versions of these methods may be used. For each subsequent fuel delivery, the permittee shall either (1) maintain a permanent file of the certified fuel sulfur analysis from the fuel vendor, or (2) take and analyze a sample according to the above procedures and maintain a permanent file of the results of the analysis. At the request of a Compliance Authority, the permittee shall perform additional sampling and analysis for the fuel sulfur content.

The above methods shall be used to determine the fuel sulfur content in conjunction with the provisions of 40 CFR 75 Appendix D. [Rules 62-4.070(3) and 62-4.160(15), F.A.C.]

[PSD-FL-296A]

E.19. Malfunction Notification: Within one working day of a malfunction for which CEMS data is excluded pursuant to Condition E.8. of this section, the permittee shall notify the Compliance Authority by telephone, facsimile transmittal, or electronic mail. The notification shall include a preliminary report of: the nature, extent, and duration of the emissions; the probable cause of the emissions; and the actions taken to correct the problem. If requested by the Compliance Authority, the permittee shall submit written quarterly reports summarizing the malfunctions in lieu of the individual malfunction notifications otherwise required. [Rule 62-210.700, F.A.C. and PSD-FL-296A]

E.20. Semiannual NSPS Excess Emissions Report: In accordance with 40 CFR 60.7(c), the permittee shall semiannually submit a report to the Compliance Authority summarizing any emissions in excess of the NSPS standards. All reports shall be postmarked by the 30th day

following the end of each six-month period. Written reports of excess emissions shall include the information specified in 40 CFR 60.7(c)(1) through (c)(4). For purposes of reporting emissions in excess of NSPS Subpart GG, excess emissions from the gas turbine are defined as: any CEMS hourly average value exceeding the NSPS NOx emission standard identified in Appendix GG (i.e., 112.5 ppmvd corrected to 15% oxygen for both natural gas and fuel oil); and any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds the NSPS standard identified in Appendix GG (i.e., sulfur in excess of 0.8% by weight). An example of an acceptable report format is provided in Appendix XS. [40 CFR 60.7(c) and PSD-FL-296A]

E.21. Quarterly Data Exclusion and Monitor Availability Report: The permittee shall quarterly submit a report to the Compliance Authority summarizing all periods of valid hourly CO and NOx emissions data excluded from the 24-hour block average compliance determinations pursuant to Condition Nos. 13 and 14 of this section. In addition, the quarterly report shall summarize the CEMS availability for the previous quarter. All reports shall be postmarked by the 30th day following the end of each calendar quarter. An example of an acceptable report format for monitoring systems availability is provided in Appendix XS. [Rules 62-4.130, 62-204.800, 62-210.700(6), F.A.C.; 40 CFR 60.7(c) and (d) and PSD-FL-296A]

Miscellaneous Conditions

E.22. Additional Ammonia Slip Testing: If the tested ammonia slip rate for a gas turbine exceeds 5 ppmvd corrected to 15% oxygen when firing natural gas during the annual test, the permittee shall:

- a. Begin testing and reporting the ammonia slip for each subsequent calendar quarter;
- b. Before the ammonia slip exceeds 7 ppmvd corrected to 15% oxygen, take corrective actions that result in lowering the ammonia slip to less than 5 ppmvd corrected to 15% oxygen; and
- c. Test and demonstrate that the ammonia slip is no more than 5 ppmvd corrected to 15% oxygen within 15 days after completing the corrective actions.

Corrective actions may include, but are not limited to, adding catalyst, replacing catalyst, or other SCR system maintenance or repair. After demonstrating that the ammonia slip level is no more than 5 ppmvd corrected to 15% oxygen, testing and reporting shall resume on an annual basis. [Rules 62-4.070(3) and 62-297.310(7)(b), F.A.C.]

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E.23. These emissions unit are also subject to conditions **H.1.** through **H.22.** contained in **Subsection H. Common Conditions.**

Subsection F. This area reserved for Power Block 3 emissions unit(s).

Subsection G. This area reserved for Power Block 4 emissions unit(s).

Subsection H. 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
014	170 MW Westinghouse 501FD CT2A
015	170 MW Westinghouse 501FD CT2B
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 G., the following conditions apply to the emissions unit(s) listed above:

Excess Emissions:

H.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

H.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.]

H.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

H.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.]

H.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.]

H.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.]

H.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

H.8. Test Reports.

- (a) The owner or operator 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.]

H.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.]

H.10. Quarterly Report. FPC shall submit a quarterly excess emissions report and monitoring systems performance report. 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)]

H.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)]

H.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)]

H.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)]

H.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.]

H.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

H.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

H.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)].

H.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)].

H.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)].

H.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)].

H.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)].

H.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
- 014 170 MW Westinghouse 501FD CT2A
- 015 170 MW Westinghouse 501FD CT2B

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*
-014	<u>2A</u>	<u>SO₂ allowances, under Table 2 or 3 of 40 CFR Part 73</u>	<u>0*</u>	<u>0*</u>	<u>0*</u>	<u>0*</u>	<u>0*</u>
-015	<u>2B</u>	<u>SO₂ allowances, under Table 2 or 3 of 40 CFR Part 73</u>	<u>0*</u>	<u>0*</u>	<u>0*</u>	<u>0*</u>	<u>0*</u>

*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

Page No. 1

Progress Energy Corporation
 Hines Energy Complex
 Facility ID 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				
Pollutant	Fuel(s)	Hrs/Yr ¹	Basis	lbs/hr	TPY	Regulations	Permit specific condition(s)

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.

Table 1-1, Air Pollutant Emission Allowables and Terms

Page No. 2

Progress Energy Corporation
Hines Energy Complex
Facility ID 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					
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.

CT-014 & 015							
NO _x	Gas		3.5 ppmvd @ 15% O ₂	25.2	101	Rule 62-212.400(6), F.A.C.	E.4.
	Oil		12 ppmvd @ 15% O ₂	93.5	34	Rule 62-212.400(6), F.A.C.	E.4.
VOC	Gas		2 ppmvw	4.7	19	Rule 62-212.400(6), F.A.C.	E.4.
	Oil		10 ppmvw	22.0	7.9	Rule 62-212.400(6), F.A.C.	E.4.
CO	Gas		16 ppmvd	73.6	296	Rule 62-212.400(6), F.A.C.	E.4.
	Oil		30 ppmvd	112	40	Rule 62-212.400(6), F.A.C.	E.4.
VE	Gas		10 percent opacity			Rule 62-212.400(6), F.A.C.	E.4.
	Oil		20 percent opacity			Rule 62-212.400(6), F.A.C.	E.4.
SO ₂	Gas			5.6	23	Rule 62-212.400(6), F.A.C.	E.4.
	Oil		0.05% S by weight	105.6	38	Rule 62-212.400(6), F.A.C.	E.4.
PM/PM ₁₀	Gas			7.3	29	Rule 62-212.400(6), F.A.C.	E.4.
	Oil			64.8	23	Rule 62-212.400(6), F.A.C.	E.4.

Table 2-1, Compliance Testing Requirements

Page No. 1

Progress Energy Corporation
 Hines Energy Complex
 Facility ID 1050234

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 or 7E	Initial				A.20
	Oil	EPA Meth. 20 or 7E					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 conditions A.11. and E.18.

³ Refer to specific conditions A.11. and E.18

Table 2-1, Compliance Testing Requirements

Page No. 2

Progress Energy Corporation
Hines Energy Complex
Facility ID 1050234

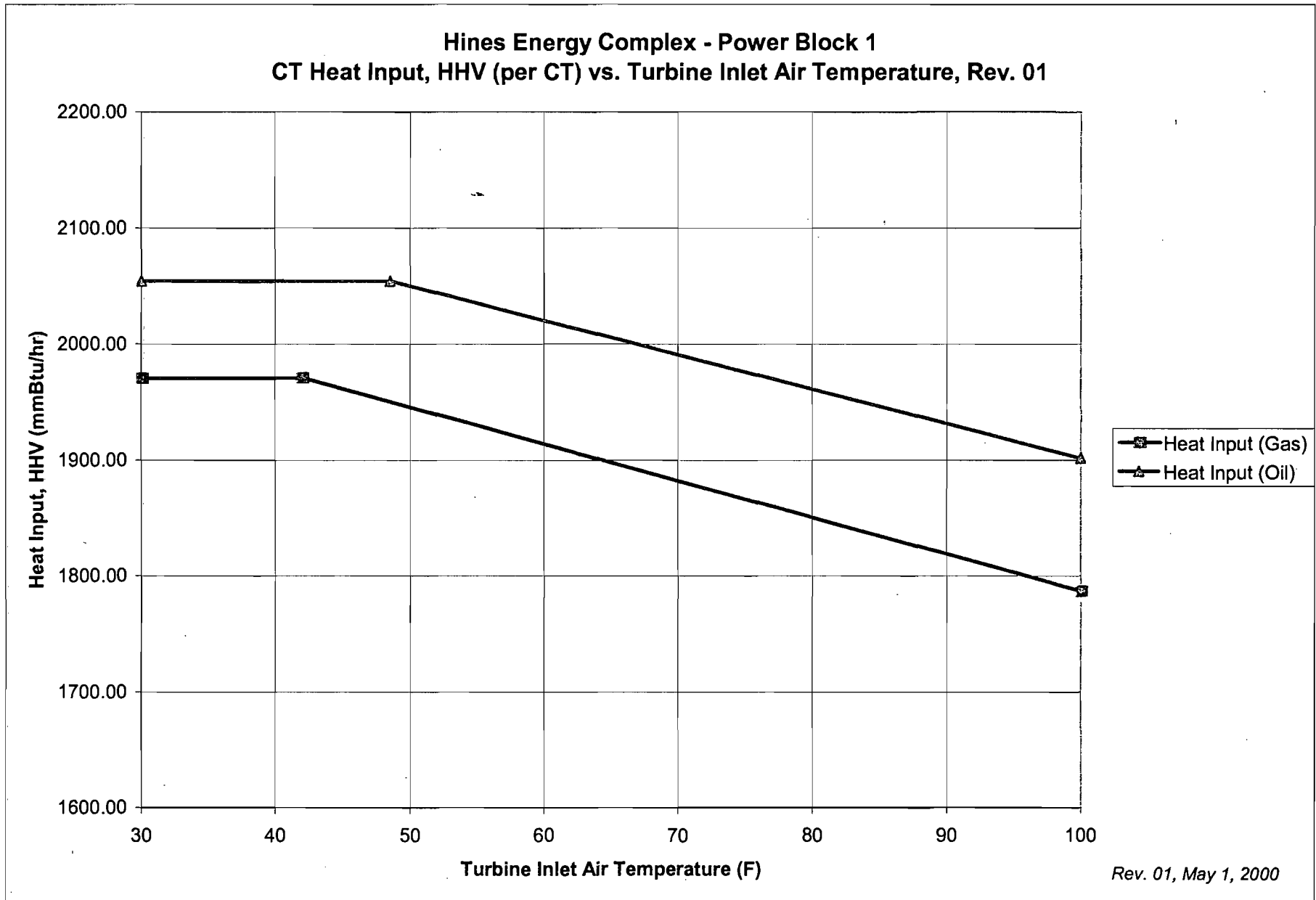
E.U. CT - 014& -015

NO _x	Gas	EPA Meth. 20	Initial				E.10, E.11 & E.13
	Oil	EPA Meth. 20					E.10, E.11 & E.13
SO ₂	Oil	F.O. Analysis ¹	Per Delivery ²				E.18
	Gas	Custom Fuel Monitoring ³	Per Delivery ²				E.18
VE	Gas/Oil	EPA Meth. 9	Annual				E.10 & E.11
PM	Oil	EPA Meth.9	Annual				E.4
VOC	Gas/Oil	EPA Meth. 25A	Initial				E.4., E.11
Ammonia Slip	Gas	CTM-027	Annual				E.4, E.10, E.11, E.15 & E.22
CO	Gas/Oil	EPA Meth. 10	Initial				E.10, E.11 & E.13

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

² The custom fuel monitoring schedule in conditions A.11. and E.18.

³ Refer to specific conditions A.11. and E.18



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 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).**

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

Progress Energy Corporation

FINAL Permit No.: 1050234-008-AV

Hines Energy Complex

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

Six Lube Oil Storage Tanks
(four with 3000 gallon capacity, one with 5550 gallon capacity and one with 400 gallon capacity)

Four 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)

Two 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

Progress Energy Corporation
Hines Energy Complex

FINAL Permit No.: 1050234-008-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.