

U.S. Postal Service
CERTIFIED MAIL RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

7000 2870 0000 7028 0528

Mr. Roger Zirkle, Plant Manager

OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark
Here

Sent To
 Mr. Roger Zirkle, Plant Manager
 Street, Apt. No., or PO Box No.
 100 Central Avenue, BB1A-HE44
 City, State, ZIP+4
 St. Petersburg, Florida 33701-551

PS Form 3800, May 2000 See Reverse for Instructions

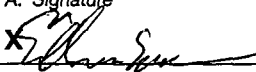
SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits:

1. Article Addressed to:
 Mr. Roger Zirkle, Plant Manager
 Progress Energy Florida, Hines
 Energy Complex
 100 Central Avenue, BB1A-HE44
 St. Petersburg, Florida 33701-5511

2. Article Number
 (Transfer from service label) 7000 2870 0000 7028 0528

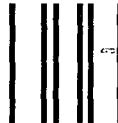
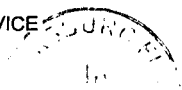
COMPLETE THIS SECTION ON DELIVERY

A. Signature
 Agent
 Addressee
 B. Received by (Printed Name) C. Date of Delivery
 EDRICKS MCDJ 6/9
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

UNITED STATES POSTAL SERVICE



First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box. •

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR RESOURCES MANAGEMENT
BUREAU OF AIR REGULATION - TITLE V

2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

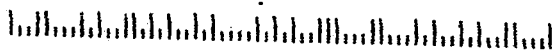
RECEIVED

JUN 13 2005

ms 5505

BUREAU OF AIR REGULATION

32399+2400



Florida Department of
Environmental Protection

Memorandum

TO: Michael G. Cooke

THRU: Trina Vielhauer
Jeff Koerner

FROM: Michael P. Halpin

DATE: May 23, 2005

SUBJECT: Progress Energy Florida
Hines Power Block 2 Heat Input Increase
Title V Permit Revision

Attached for approval and signature is a Title V permit revision for the subject facility. The revision authorizes each of the CT's at Power Block 2 to operate with maximum heat inputs between 6 and 7% above that which was initially authorized. Neither a PSD Review nor a new determination of Best Available Control Technology (BACT) was required as a result of this request, due to the estimated emission increases falling below the appropriate thresholds.

For informational purposes, both Power Blocks 2 and 3 underwent the review for PSD applicability and construction permits were issued for each Power Block on March 3rd. However, Power Block 3 has not yet begun normal operation and has thus not yet been incorporated into the facility's Title V permit.

The project was noticed in the Lakeland Ledger on February 14, 2005 and only one comment was received (from the applicant) to correct an old, unrelated typographical error within page 7. The EPA Notice was provided on April 7th, and no comments were received as of May 22nd (day 45).

I recommend your approval and signature.

Attachments

/mph

mike -

You already signed an
AC on this. This is the
TV catching up...

Trina

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-HE44
St. Petersburg, Florida 33701-5511

FINAL Permit Project No.: 1050234-012-AV
Hines Power Block 2
Polk County

Enclosed is the FINAL Permit, No. 1050234-012-AV, for the Title V Air Operation Revision. The purpose is to incorporate the terms and conditions of the PSD permit which allowed for an increase in heat input relative to the 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, Chief
Bureau of Air Regulation

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 relevant pages of the FINAL Permit) was sent by certified mail before the close of business on 6/7/05 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 6/7/05 to the person(s) listed or as otherwise noted:

Dave Meyer, Progress Energy Florida
Scott Osbourn, Golder
Buck Oven, PPSO
Gerald Kissel, Southwest District Office
Gregg Worley, EPA Region 4
John Bunyak, National Park Service

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.

(Clerk) Sunday 6/7/05 (Date)

FINAL Determination

Title V Air Operation Permit Revision
FINAL Permit Project No.: 1050234-012-AV
Progress Energy Florida
Hines Energy Complex, Power Block 2
Page 1 of 1

I. Comment(s).

One comment was received from the applicant, which was to fix an old typographical error in Condition A.1. as well as the description of Power Block 1. As a result, page 7 is being re-issued.

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

II. Conclusion.

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

STATEMENT OF BASIS

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

Title V Air Operation Permit Revision
FINAL Permit No.: 1050234-012-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.

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 Progress Energy Florida 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 heat input increases for each fuel at Power Block 2, authorization of which was granted under air construction permit number 1050234-011-AC. 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, and Power Block 3 is currently under construction.



Department of Environmental Protection

Jeb Bush
Governor

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.: 1050234-012-AV

Facility ID No.: 1050234

SIC Nos.: 49, 4911

Project: Title V Air Operation Permit Revision

This revision is for the increase of heat input for 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: May 24, 2005

Renewal Application Due Date: July 5, 2006

Expiration Date: December 31, 2006

Michael G. Cooke, Director
Division of Air Resource
Management

MGC/mph

"More Protection, Less Process"

Printed on recycled paper.

Section III. Emissions Unit(s) and Conditions.

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

<u>E.U.</u> <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 (HHV) while firing natural gas and 2,020 MMBtu/hr (HHV) 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: These emission units 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-195B; and 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 (HHV) while firing natural gas, or 2,020 MMBtu/hr (HHV) while firing fuel oil. See Attachment G-1 for a plot of heat input versus temperature.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and PSD-FL-195B]

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

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

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

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

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

E.U. ID No.	Brief Description
-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~~ 2,048 MMBtu/hr (LHHV) while firing natural gas and ~~2,020~~ 2,155 MMBtu/hr (LHHV) 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 emission units 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; and 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~~ 2,048 MMBtu per hour when firing natural gas and ~~2,020~~ 2,155 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.

- 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~~ 78.7 lb/hr for natural gas firing and ~~112~~ 119.5 lb/hr for distillate fuel oil firing,*
- *NO_x = ~~25.2~~ 27.0 lb/hr for natural gas firing and ~~93.5~~ 99.7 lb/hr for distillate fuel oil firing,*
- *VOC = ~~4.7~~ 5.0 lb/hr for natural gas firing and ~~22~~ 23.5 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/hr 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]

Table 1-1, Air Pollutant Emission Allowables and Terms

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

Emission Unit & No.			Allowable Emissions ²		Regulations	Permit specific condition(s)
Pollutant	Fuel(s)	Hrs/Yr ¹	Basis	lbs/hr		

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

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	27	217	Rule 62-212.400(6), F.A.C.	E.4.
	Oil		12 ppmvd @ 15% O ₂	99.7	72	Rule 62-212.400(6), F.A.C.	E.4.
VOC	Gas		2 ppmvw	5	40	Rule 62-212.400(6), F.A.C.	E.4.
	Oil		10 ppmvw	23.5	16.9	Rule 62-212.400(6), F.A.C.	E.4.
CO	Gas		16 ppmvd	78.7	633	Rule 62-212.400(6), F.A.C.	E.4.
	Oil		30 ppmvd	119.5	86	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.

Friday, Barbara

To: 'dave.meyer@pgnmail.com'; 'sosbourn@golder.com'; Waters, Jason; Waters, Jason;
worley.gregg@epa.gov; John_Bunyak@nps.gov

Cc: Halpin, Mike

Subject: FINAL Title V Permit Revision No.: 1050234-012-AV - Progress Energy Florida - Hines Energy
Complex

Attachments: 1050234-012-AV-F.zip

Attached for your records is a zip file for the subject FINAL Title V Permit Revision.

If I may be of further assistance, please feel free to contact me.

Barbara J. Friday
Planner II
Bureau of Air Regulation
(850)921-9524
Barbara.Friday@dep.state.fl.us

6/7/2005