

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
NOTICE OF FINAL PERMIT

In the Matter of an  
Application for Permit by:

Florida Power Corporation  
One Power Plaza  
263 13<sup>th</sup> Avenue South  
St. Petersburg, Florida 33701


DEP File No.1050234-002-AC, PSD-FL-195A  
Hines Energy Complex Power Block 1  
Polk County

B

Enclosed is Final Permit Number 1050234-002-AC. This permit authorizes Florida Power Corporation to operate the Hines Energy Complex with increased heat inputs, megawatt ratings and startup times. This permit is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, 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 must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

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

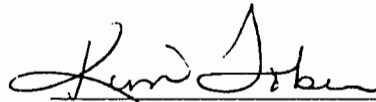
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Final Permit (including the Final permit) was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 5-27-99 to the person(s) listed:

- Mr. Jeffrey Pardue, Florida Power Corporation \*
- Ms. Jennifer Tillman, P.E., Florida Power Corporation \*
- Bill Thomas, P.E., DEP-SWD
- Mr. Gregg Worley, EPA
- Mr. John Bunyak, NPS

Clerk Stamp

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

  
(Clerk) 5-27-99  
(Date)

## FINAL DETERMINATION

Florida Power Corporation  
Hines Energy Complex  
DEP File No. 1050234-002-AC, PSD-FL-195A

The Department distributed a public notice package on May 10, 1999 to allow the applicant to modify its permit at the Hines Energy Complex located in Polk County. The Public Notice of Intent to Issue was published in the Lakeland Ledger on May 12, 1999.

### COMMENTS/CHANGES

No comments were received by the Department from the public.

No comments were received from the EPA.

Comments were received from the applicant by electronic correspondence dated May 25, 1999.

A meeting was held on May 26, 1999 between the Department, the applicant's representatives to discuss the comments. These comments were minor in nature, representing only a clarification of the applicant's request.

The Department determined that minor corrections or changes must be made to the draft permit text to clarify the original requirements. The corrections or changes are summarized below.

Specific Condition B.3.: A description was provided for a warm start along with the corresponding startup requirements.

### CONCLUSION

The final action of the Department is to issue the permit with the changes described above.

Z. 333 618 157

US Postal Service  
**Receipt for Certified Mail**  
No Insurance Coverage Provided.  
Do not use for International Mail (See reverse)

Sent to	Jeff Ardue	
Street & Number	FPC - Homes	
Post Office, State, & ZIP Code	St. Pete, FL	
Postage	\$	
Certified Fee		
Special Delivery Fee		
Restricted Delivery Fee		
Return Receipt Showing to Whom & Date Delivered		
Return Receipt Showing to Whom, Date, & Addressee's Address		
TOTAL Postage & Fees	\$	
Postmark or Date	1050234-002-AE 5-27-99 PSD-FI-195A	

PS Form 3800, April 1995

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:  
Jeffrey Ardue, Director  
FPC - Homes  
One Power Plaza  
263 13th Ave South  
St. Pete, FL 33701

4a. Article Number  
Z 333 618 157

4b. Service Type  
 Registered  
 Express Mail  
 Return Receipt for Merchandise  
 Certified  
 Insured  
 COD

7. Date of Delivery  
6-1-99

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)  
X [Signature]

PS Fo:

Thank you for using Return Receipt Service.



# Department of Environmental Protection

Jeb Bush  
Governor

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

David B. Struhs  
Secretary

May 27, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. W. Jeffrey Pardue  
Director, Environmental Services  
FPC -Hines Energy Complex  
One Power Plaza  
263 13<sup>th</sup> Avenue South  
St. Petersburg, Florida 33701

Re: DEP File No. PSD-FL-195A; Modification of Permit No. PSD-FL-195A<sup>B</sup>  
Hines Energy Complex / Polk County

The applicant, Florida Power Corporation, applied on May 4, 1999, to the Department for a modification to air construction permit number PSD-FL-195A for its Hines Energy Complex located in Polk, County. The modification is to allow the facility to utilize the fully installed capacity of the combined cycle units by modifying the maximum heat input ratings and maximum megawatt ratings. Additionally, testing has shown that the allotted startup time of 2 hours is inadequate for warm and cold starts and increased times are requested. The Department has reviewed the modification request. The referenced permit is hereby modified as follows:

**Permit Cover Letter:** Multiple changes. A revised cover letter is included for clarity following the Specific Condition changes below.

**Specific Condition Introductory text** changes as follow:

From: The construction and operation of the Hines Energy Complex (Project) shall be in accordance with all applicable provisions of Chapters 62-210 to 297, F.A.C. and NSPS Subparts GG, Dc, and Kb. The following emission limitations and conditions reflect BACT determinations for the Power Block 1- 485 MW (two combined cycle combustion turbines and auxiliary equipment) of generating capacity for which the need has been determined. BACT determinations for the remaining phases will be made upon review of supplemental applications. In addition to the foregoing, the Project shall comply with the following conditions of certification as indicated.

To: The construction and operation of the Hines Energy Complex (Project) shall be in accordance with all applicable provisions of Chapters 62-210 to 297, F.A.C. and NSPS Subparts GG, Dc, and Kb. The following emission limitations and conditions reflect BACT determinations for the Power Block 1- 500 MW (two combined cycle combustion turbines and auxiliary equipment) of generating capacity for which the need has been determined. BACT determinations for the remaining phases will be made upon review of supplemental applications. In addition to the foregoing, the Project shall comply with the following conditions of certification as indicated.

#### **Specific Condition A.1.**

From: The maximum heat input (HHV) to each combustion turbine (CT) at an ambient temperature of 59° F shall neither exceed 1,757 MMBtu/hr while firing natural gas, nor 1,846 MMBtu/hr while firing fuel oil. Heat input may vary depending on ambient conditions and the CT characteristics. Manufacturer's curves or equations for correction to other temperatures shall be provided to DEP for review 90 days after selection of the CT. Subject to approval by the Department for technical validity applying sound engineering principles, the manufacturer's curves shall be used to establish heat input rates over a range of temperatures for the purpose of compliance determination.

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

To: The maximum heat input (HHV) to each combustion turbine (CT) at an ambient temperature of 59° F shall neither exceed 1,866 MMBtu/hr while firing natural gas, nor 1,999 MMBtu/hr while firing fuel oil. Heat input may vary depending on ambient conditions and the CT characteristics. Manufacturer's curves or equations for correction to other temperatures shall be provided to DEP for review 90 days after selection of the CT. Subject to approval by the Department for technical validity applying sound engineering principles, the manufacturer's curves shall be used to establish heat input rates over a range of temperatures for the purpose of compliance determination.

**Specific Condition A.8.**

From: If site construction does not commence on Power Block 1 (485 MW) within 18 months of issuance of this permit, then FPC may request an extension of the 18-month period, provided that such request is received by the Department's Bureau of Air Regulation at least 90 days prior to the expiration date. Such a request shall identify the progress made toward commencement of the construction of the site and the expected time required to start and complete construction of the initial phase. The Department may grant the extension upon a satisfactory showing that the extension is justified.

To: If site construction does not commence on Power Block 1 (500 MW) within 18 months of issuance of this permit, then FPC may request an extension of the 18-month period, provided that such request is received by the Department's Bureau of Air Regulation at least 90 days prior to the expiration date. Such a request shall identify the progress made toward commencement of the construction of the site and the expected time required to start and complete construction of the initial phase. The Department may grant the extension upon a satisfactory showing that the extension is justified.

**Specific Condition B.3.**

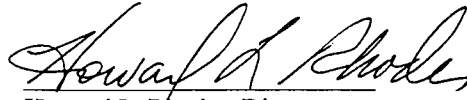
From: Excess emissions from a turbine resulting from start up, shutdown, malfunction, or load change shall be acceptable providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for a longer duration. The permittee shall provide a general description of the procedures to be followed during periods of start up, shutdown, malfunction, or load change to ensure that the best operational practices to minimize emissions will be adhered to and the duration of any excess emissions will be minimized. The description should be submitted to the Department along with the initial compliance test data. The description may be updated as needed by submitting such update to the Department within thirty (30) days of implementation.

To: Excess emissions resulting from startup, shutdown, or malfunction shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized. Excess emissions occurrences shall 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 startup to combined cycle operation following a steam turbine shutdown lasting at least 48 hours. During a warm start-up to combined cycle operation, up to three hours of excess emissions are allowed in a 24-hour period. Warm start-up is defined as a startup to combined cycle operation following a steam turbine shutdown lasting at least 8 hours. [Applicant Request, Vendor Combined Cycle Startup Curves Data and Rule 62-210.700, F.A.C.].

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. This permit modification is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order (permit modification) has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, 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 must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.



Howard L. Rhodes, Director  
Division of Air Resources  
Management

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this permit modification was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 5-27-99 to the person(s) listed:

- W. Jeffrey Pardue, Florida Power Corporation \*
- Jennifer Tillman, P.E., Florida Power Corporation \*
- Doug Neely, EPA
- John Bunyak, NPS
- Bill Thomas, P.E., DEP-SWD
- Mr. Gregg Worley, EPA

Clerk Stamp

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



(Clerk)

5-27-99  
(Date)

**PERMITTEE:**  
Florida Power Corporation  
3201 34th Street South  
St. Petersburg, FL 33733

**Permit Number:** PSD-FL-195A/PA-92-33  
**Issued:** 3/1/94 **Revised:** 5/11/99  
**Expiration Date:** November 1, 2000  
**County:** Polk  
**Latitude/Longitude:** 27°47'19"N/81°52'10"W  
**Project:** 500 MW Combined Cycle

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-212 and 62-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and specifically described as follows:

For two combined cycle combustion turbines (CTs) with maximum allowable heat input based on the higher heating value (HHV) at 59°F of 1,866 MMBtu/hr/unit (natural gas) and 1,999 MMBtu/hr/unit (oil) to be located at the Hines Energy Complex near Fort Meade, Florida. Power Block 1 consists of two combined cycle combustion turbines for a total of 500 MW, a 99 MMBtu/hr auxiliary boiler (Subpart Dc), a 1,300 kW diesel generator and a 97,570 barrel fuel oil storage tank (Subpart Kb). The combustion turbines are Westinghouse Model 501FC or equivalent and rated at approximately 165 MW in simple cycle and equipped with dry low NO<sub>x</sub> combustors and/or Selective Catalytic Reduction (SCR) for natural gas firing and wet injection for fuel oil firing. Each combustion turbine will incorporate an unfired heat recovery steam generator.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.



Howard L. Rhodes, Director  
Division of Air Resources  
Management

Relevant documents are listed below:

1. FPC application received August 4, 1992 and revision received May 4, 1999.
2. The Department's letters dated August 31 and November 13, 1992.
3. FPC's letters dated October 13 and November 30, 1992; June 27 and September 9, 1996; February 18 and June 30, 1998; and the SCR Technical Specification received August 3, 1998.
4. Westinghouse 501FC tables or curves showing Heat Input vs. Compressor Inlet Temperature and Nitrogen Oxide Emissions vs. Compressor Inlet Temperature shall be attachments to and are part of this permit.



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

April 13, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. W. Jeffrey Pardue, CEP  
Director Environmental Services  
Florida Power Corporation  
Post Office Box 14042, MAC BB1A  
St. Petersburg, Florida 33733

Re: FPC Hines Energy Power Block I  
Facility I.D. 1050234, Permit PSD-FL-195B

Dear Mr. Pardue:

The Department reviewed Mr. Osbourn's letter request dated April 12, 2000 to conduct testing to determine whether work conducted during a recent turn-around resulted in a potential increase in fuel usage. The tests may result in the temporary operation of the units at heat input levels marginally higher than their permitted capacity.

The request is approved provided concentration and mass emission rates of no pollutants exceed the applicable limits given in Permit PSD-FL-195A. Testing shall be conducted during 40 hours between April 13 and May 30. At all other times the units shall not be operated in excess of permitted heat input.

Based on testing conducted in 1999, it appears that the units operate well within their allowable mass emissions limits with the exception of nitrogen oxides at full load. It may be necessary to marginally increase ammonia injection at full load to compensate for the additional emission potential at the higher heat input rate.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any

*"More Protection, Less Process"*

*Printed on recycled paper.*



right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

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

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

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above. Mediation is not available in this proceeding.

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

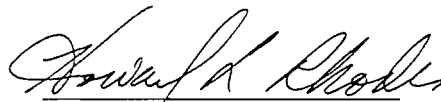
The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

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

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

This permitting decision is issued pursuant to Chapter 403, Florida Statutes. Any party to this permitting decision (order) has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, 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 must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.



Howard L. Rhodes, Director  
Division of Air Resources Management

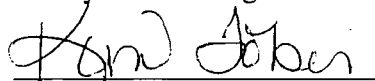
**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this AMENDMENT was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 4-13-00 to the person(s) listed:

W. Jeffrey Pardue, FPC \*  
Mike Kennedy, FPC  
Bill Thomas, DEP SWD  
Gregg Worley, EPA

Clerk Stamp

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

  
(Clerk)

4-13-00  
(Date)

Z 031 391 946

US Postal Service  
**Receipt for Certified Mail**

No Insurance Coverage Provided.  
Do not use for International Mail (See reverse)

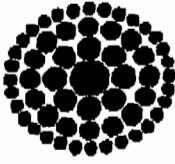
PS Form 3800, April 1995

Sent to: <i>Jeff Pardue</i>	
Street & Number: <i>FPC</i>	
Post Office, State, & ZIP Code: <i>St. Pete Fl.</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date: <i>1050234 4-13-00</i> <i>PSD-FI-195B</i>	

<p><b>SENDER: Complete</b> (Fold at line over top of envelope to the right of the return address)</p> <ul style="list-style-type: none"> <li>Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul> <p>1. Article Addressed to: <i>Mr. Jeffrey Pardue, CEP Director Env. Serv. FPC PO Box 14042 MAC BBIA St. Petersburg, Fl 33733</i></p>	<p style="text-align: center;"><b>SECTION ON DELIVERY</b></p> <table border="1"> <tr> <td>A. Received by (Please Print Clearly)</td> <td>B. Date of Delivery</td> </tr> <tr> <td>C. Signature <i>X [Signature]</i></td> <td><i>APR 17 2000</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</td> </tr> <tr> <td colspan="2">D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</td> </tr> </table> <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail    <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered    <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail    <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee)    <input type="checkbox"/> Yes</p>	A. Received by (Please Print Clearly)	B. Date of Delivery	C. Signature <i>X [Signature]</i>	<i>APR 17 2000</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee	D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
A. Received by (Please Print Clearly)	B. Date of Delivery						
C. Signature <i>X [Signature]</i>	<i>APR 17 2000</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee						
D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No							

2. Article Number (Copy from service label) *Z 031 391 946*

PS Form 3811, July 1999      Domestic Return Receipt      102595-99-M-1789



**Florida Power**  
CORPORATION

Date: 4/12/00

To: Al Linero

FAX #: (850) 922-6979

Phone #: ( )

From: Scott Osborn

FAX #: (727) 826-4216

Phone #: (727) 826-4258

3 Total number of pages including cover page.

Please notify \_\_\_\_\_ at (727) 826 - \_\_\_\_\_  
for any problems concerning the receipt of this FAX.

Comments: Please call & let me know what direction  
to give the plant. Thanks.

Scott



RECEIVED

APR 14 2000

BUREAU OF AIR REGULATION

April 12, 2000

Mr. Al Linero, P.E.  
Administrator, New Source Review Section  
Florida Department of Environmental Protection  
2600 Blair Stone Rd.  
Tallahassee, Florida 32399-2400

Dear Mr. Linero:

Re: Florida Power Corporation's Hines Energy Complex  
DEP File No. 1050234-002-AC, PSD-FL-195A

This letter serves to follow-up on a conversation that occurred this morning among Messrs. Clair Fancy, Al Linero, Jerry Kissel and Bill Proses of the Department and Mike Kennedy and me of Florida Power Corporation (FPC). Specifically, during the recently completed outage at FPC's Hines Energy Complex, certain equipment changes were made to the two combustion turbines (CT 1A and 1B). A dialogue has now been initiated between FPC and the Department to determine whether permitting action is necessary as a result of these equipment changes.

Hines Power Block 1, consisting of CTs 1A and 1B, has been in operation since approximately January of 1999. Initial compliance testing was completed on April 12, 1999. In the interim since the initial emissions compliance testing was conducted, there has been additional permitting action beyond the initial PSD air construction permit. On May 27, 1999, FPC received a permit modification that allowed the facility to fully utilize its originally installed maximum heat input capacity. Additionally, testing had shown that the allotted startup time of two hours was inadequate for warm and cold starts and these times were increased as requested. On December 1, 1999, FPC received the *Initial Draft Title V* air operating permit for the Hines facility. Revisions have been made and a *Proposed Title V* permit will be issued shortly. Specifically, the Hines facility is still operating under an air construction permit and, arguably, an actual operating history has not yet been established.

Although compliance with environmental limits was demonstrated, testing to demonstrate attainment of contractual performance guarantees (i.e., power output, heat rate, etc.) was unsuccessful. Siemens Westinghouse Power Corporation (SWPC) has expended considerable effort since startup in the evaluation and testing of the power block (including the steam cycle) in an attempt to attain the original contractual performance goals. In this context, communications between SWPC, FPC's Construction Department and Hines plant staff led to

Mr. Linero  
April 12, 2000  
Page 2

the work that was conducted during the recent outage that commenced on March 24<sup>th</sup> and ended on April 8<sup>th</sup>. SWPC had verbally conveyed to FPC that the equipment changes would not result in an emissions increase. Subsequently, correspondence was received from SWPC, dated March 31, 2000, indicating that ... "there should be no noticeable change in emissions on a *ppm basis* (emphasis added). That is, the emissions produced per unit of fuel burned should be the same before and after the Row 1 compressor upgrade." Further, "...the Row 1 upgrade increases GT airflow (with IGVs full open) and GT fuel input by about 2%, therefore, when the GT is base loaded, there will be an increase in emissions on a lb/hr basis of about 2%."

FPC's Environmental Services Department (ESD) became aware of the letter and the outage work completed and notified the Department today by phone. As agreed, the units have not yet been re-started for full load testing since the work was completed. With the Department's concurrence, FPC could begin the testing to determine if the work has resulted in the hoped for performance improvements and whether any corresponding increase in fuel flow has resulted. If not, there would be no expectation of an emissions increase and a permit amendment may not be required. If, however, there is a measureable increase in fuel flow (i.e., comparing actual measured heat input both before and after the upgrade), then FPC would have the necessary data to include in an application for a permit to construct. It should be noted that at the anticipated maximum fuel flow increase of two percent, no current permit limits would be exceeded and no PSD emission increase thresholds would be triggered. In addition, regarding NO<sub>x</sub>, there would be no increase in actual emissions, as the facility's SCR system has the ability to control to previous actual NO<sub>x</sub> levels.

In summary, FPC requests permission from the Department to conduct the one-time test necessary to determine whether the work recently conducted has resulted in a fuel flow increase. If so, FPC would agree to operate the CTs at a capacity no greater than the maximum actual capacity that was achievable prior to the recent outage. FPC would then operate at this restricted rate until successfully applying for and obtaining a construction permit.

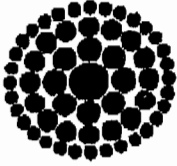
If you should have any questions or require clarification concerning the above, please do not hesitate to contact either Mike Kennedy at (727) 826-4334 or me at (727) 826-4258.

Sincerely,



Scott H. Osbourn  
Senior Environmental Engineer

cc: William Thomas, DEP SW District



**Florida Power**  
CORPORATION

**RECEIVED**

APR 11 2000

BUREAU OF AIR REGULATION

Date: 4/11/00

To: Al Linero

FAX #: (850) 922-6979

Phone #: ( )

From: Scott Stovon

FAX #: (727) 826-4216

Phone #: (727) 826-4258

2 Total number of pages including cover page.

Please notify \_\_\_\_\_ at (727) 826 - \_\_\_\_\_  
for any problems concerning the receipt of this FAX.

Comments: As we discussed.

XC: DAS 282  
PK SHO  
CLN 060

FILE 7.4.1

**SIEMENS**  
**Westinghouse**

March 31, 2000

HEC1 WFPC521-00  
WBS: 311

Mr. David Sands  
Engineering Manager  
**Florida Power Corporation**  
7700 County Road #665  
Bartow, FL 33830

**Subject: Hines Energy Complex, PB1 Emissions**

Dear Mr. Sands:

In reference to your question on emissions impact with the new compressor upgrade:

There should be no noticeable change in emissions on a ppm basis. That is, the emissions produced per unit of fuel burned should be the same before and after the Row 1 compressor upgrade. (All actual emissions amounts referenced in the contract Exhibit B-18 with the ppmvd designation will not change.)

The Row 1 upgrade increases GT airflow (with IGV's full open) and GT fuel input by about 2%, therefore when the GT is base loaded, there will be an increase in the emissions on a lb/hr basis of about 2%. (All actual emissions amounts referenced in the contract Exhibit B-18 with the lb/h designation will increase by about 2%.) Since the measured lb/hr emissions were much lower than guarantee, this should not be an issue. At reduced load with the IGV's in partially closed position, the difference will be less than 2%.

Please call if you have any questions on this matter.

Sincerely

*Steve Kusca for*

Thomas Barrett  
Project Director

TB:pn

**Siemens Westinghouse Power Corporation**  
A Siemens Company

4400 Alafaya Trail  
Orlando, FL 32826-2399

WFPC521-letter dated 3-30-00 Emissions





Jeb Bush  
Governor

# Department of Environmental Protection

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400  
May 10, 1999

David B. Struhs  
Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. W. Jeffrey Pardue  
Director, Environmental Services  
Florida Power Corporation  
One Power Plaza  
263-13<sup>th</sup> Avenue South  
St. Petersburg, Florida 33701

Re: DEP File No. (PSD-FL-195) <sup>B</sup>  
Hines Energy Complex

Dear Mr. Pardue:

Enclosed is one copy of the Draft Air Construction Permit Modification for the increased heat input, megawatt rating and start-up times for the 485 MW Hines Energy Complex Power Block 1 located in, Polk County. The Department's Intent to Issue Air Construction Permit Modification and the "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION" are also included.

The "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION" must be published within 30 (thirty) days of receipt of this letter. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit amendment.

Please submit any written comments you wish to have considered concerning the Department's proposed action to A.A. Linero, P.E., New Source Review Section at the above letterhead address. If you have any other questions, please contact Mr. M. P. Halpin, P.E. at 850/921-9530.

Sincerely,

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

CHF/mph

Enclosures

In the Matter of an  
Application for Permit Modification by:

Florida Power Corporation  
One Power Plaza, 263-13<sup>th</sup> Avenue South  
St. Petersburg, Florida 33701

DEP File No. PA92-33D  
Permit PSD-FL-195A  
Hines Energy Complex Power Block 1  
Polk County

### INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit modification (copy of DRAFT Permit modification attached) for the proposed action, as detailed in the application specified above, for the reasons stated below.

The applicant, Florida Power Corporation applied on May 3, 1999, to the Department for an air construction permit modification to increase the heat input limits, megawatt rating and start-up times for its combined cycle combustion turbines located at the Hines Energy Complex, Polk County.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-212. The above action is not exempt from permitting procedures. The Department has determined that an air construction permit modification is required to increase the heat-input limits, megawatt rating and start-up times.

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

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

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

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

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

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

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

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

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


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

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

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

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

Executed in Tallahassee, Florida.

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

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION (including the PUBLIC NOTICE, and DRAFT permit modification) was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 5-12-99 to the person(s) listed:

W. Jeffrey Pardue, Florida Power Corporation  
Jennifer Tillman, P.E., Florida Power Corporation  
Doug Neeley, EPA  
John Bunyak, NPS  
Bill Thomas, P.E., DEP-SWD

Clerk Stamp

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

Kend Orben                      5-12-99  
(Clerk)                                      (Date)

Z 333 618 145

US Postal Service  
**Receipt for Certified Mail**

No Insurance Coverage Provided.  
Do not use for International Mail (See reverse)

Sent to <i>Jeff. Pardue</i>	
Street & Number <i>FPC</i>	
Post Office, State, & ZIP Code <i>St. Pete, FL</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date <i>PSD-FL-195A</i> <i>Hines</i>	<i>5-12-99</i>

PS Form 3800, April 1995

Is your RETURN ADDRESS completed on the reverse side?

**SEND**

- Complete the return address on the reverse side of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

following services (for an extra fee):

- 1.  Addressee's Address
- 2.  Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to: <i>W. Jeffrey Pardue</i> <i>Fla. Power Corp</i> <i>263 13th Ave South</i> <i>St. Pete, FL 33701</i>	4a. Article Number <i>Z 333 618 145</i>
	4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD
5. Received By: (Print Name)	7. Date of Delivery <i>5/15/99</i>
6. Signature: (Addressee or Agent) <b>X</b> <i>[Signature]</i>	8. Addressee's Address (Only if requested and fee is paid)

Thank you for using Return Receipt Service.

**NOTICE TO BE PUBLISHED  
IN THE NEWSPAPER**

**PUBLIC NOTICE OF INTENT TO ISSUE PSD PERMIT MODIFICATION**

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Florida Power Corporation, Hines Energy Complex Power Block 1  
DEP File No. PSD-FL-195A, PA92-33D  
Polk County

The Department of Environmental Protection (Department) gives notice of its intent to issue a modification of a Prevention of Significant Deterioration (PSD) Permit to Florida Power Corporation (FPC) for its Hines Energy Complex located in Polk County. A Best Available Control Technology (BACT) determination was not required for this modification pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The applicant's name and address are: Florida Power Corporation, One Power Plaza, 263-13<sup>th</sup> Avenue South, St. Petersburg, Florida 33701.

This is a new facility consisting of two Westinghouse 501FC combustion turbines with heat recovery steam generators. The facility has a nominal rating of 485 Megawatts and heat-input limits (at an ambient temperature of 59°F) of 1757 MMBtu/hr while firing natural gas and 1846 MMBtu/hr while firing fuel oil.

During recent initial compliance testing, the units achieved their permitted emission limits for nitrogen oxides, particulate matter, carbon monoxide, volatile organic compounds, sulfur dioxide, sulfuric acid mist and opacity. FPC determined that the units (combined) are capable of achieving 500 MW and still meet the permitted limits. The 500 MW rating for two units is consistent with the recent applications received by the Department for similar units.

FPC requests an increase in the heat input and corresponding megawatt capacity of the combined cycle units. The requested heat input limits applicable to each CT at an ambient temperature of 59°F are 1866 MMBtu/hr while firing natural gas and 1999 MMBtu/hr while firing fuel oil. The requested facility rating is 500 Megawatts. This will allow FPC to utilize the fully installed actual capacity of the generating units. No other emission limit increases are requested.

Additionally, FPC requests changes in the time during which excess emissions are allowed during start-up. The present permit allows 2 hours. The manufacturer has provided information indicating that 3-4 hours are required for a cold start. This is consistent with the time required to heat the steam cycle components including the selective catalytic reduction catalyst for nitrogen oxides control. Information will be provided to the Department regarding the precise time necessary for hot, warm, and cold starts. These values will be incorporated into the modified permit.

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

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

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

## **NOTICE TO BE PUBLISHED IN THE NEWSPAPER**

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

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

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

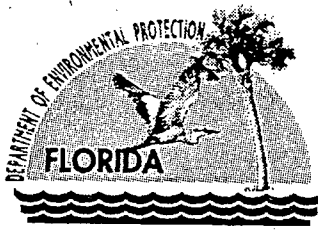
Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of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

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

Department of Environmental Protection  
Bureau of Air Regulation  
111 S. Magnolia Drive, Suite 4  
Tallahassee, Florida 32301  
Telephone: 850/488-0114  
Fax: 850/922-6979

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

The complete project file includes the Draft Permit modification, the application, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information.



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

May 10, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. W. Jeffrey Pardue  
Director, Environmental Services  
FPC -Hines Energy Complex  
One Power Plaza  
263 13<sup>th</sup> Avenue South  
St. Petersburg, Florida 33701

Re: DEP File No. PSD-FL-195A; Modification of Permit No. PSD-FL-195A  
Hines Energy Complex / Polk County

The applicant, Florida Power Corporation, applied on May 4, 1999, to the Department for a modification to air construction permit number PSD-FL-195A for its Hines Energy Complex located in Polk County. The modification is to allow the facility to utilize the fully installed capacity of the combined cycle units by modifying the maximum heat input ratings and maximum megawatt ratings. Additionally, testing has shown that the allotted startup time of 2 hours is inadequate for cold starts and increased times are requested. The Department has reviewed the modification request. The referenced permit is hereby modified as follows:

**Permit Cover Letter:** Multiple changes. A revised cover letter is included for clarity.

**Specific Condition Introductory text changes as follow:**

From: The construction and operation of the Hines Energy Complex (Project) shall be in accordance with all applicable provisions of Chapters 62-210 to 297, F.A.C. and NSPS Subparts GG, Dc, and Kb. The following emission limitations and conditions reflect BACT determinations for the Power Block 1- 485 MW (two combined cycle combustion turbines and auxiliary equipment) of generating capacity for which the need has been determined. BACT determinations for the remaining phases will be made upon review of supplemental applications. In addition to the foregoing, the Project shall comply with the following conditions of certification as indicated.

To: The construction and operation of the Hines Energy Complex (Project) shall be in accordance with all applicable provisions of Chapters 62-210 to 297, F.A.C. and NSPS Subparts GG, Dc, and Kb. The following emission limitations and conditions reflect BACT determinations for the Power Block 1- 500 MW (two combined cycle combustion turbines and auxiliary equipment) of generating capacity for which the need has been determined. BACT determinations for the remaining phases will be made upon review of supplemental applications. In addition to the foregoing, the Project shall comply with the following conditions of certification as indicated.

**Specific Condition A.1.**

From: The maximum heat input (HHV) to each combustion turbine (CT) at an ambient temperature of 59° F shall neither exceed 1,757 MMBtu/hr while firing natural gas, nor 1,846 MMBtu/hr while firing fuel oil. Heat input may vary depending on ambient conditions and the CT characteristics. Manufacturer's curves or equations for correction to other temperatures shall be provided to DEP for review 90 days after selection of the CT. Subject to approval by the Department for technical validity applying sound engineering principles, the manufacturer's curves shall be used to establish heat input rates over a range of temperatures for the purpose of compliance determination.

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

*Printed on recycled paper.*



To: The maximum heat input (HHV) to each combustion turbine (CT) at an ambient temperature of 59° F shall neither exceed 1,866 MMBtu/hr while firing natural gas, nor 1,999 MMBtu/hr while firing fuel oil. Heat input may vary depending on ambient conditions and the CT characteristics. Manufacturer's curves or equations for correction to other temperatures shall be provided to DEP for review 90 days after selection of the CT. Subject to approval by the Department for technical validity applying sound engineering principles, the manufacturer's curves shall be used to establish heat input rates over a range of temperatures for the purpose of compliance determination.

**Specific Condition A.8.**

From: If site construction does not commence on Power Block 1 (485 MW) within 18 months of issuance of this permit, then FPC may request an extension of the 18-month period, provided that such request is received by the Department's Bureau of Air Regulation at least 90 days prior to the expiration date. Such a request shall identify the progress made toward commencement of the construction of the site and the expected time required to start and complete construction of the initial phase. The Department may grant the extension upon a satisfactory showing that the extension is justified.

To: If site construction does not commence on Power Block 1 (500 MW) within 18 months of issuance of this permit, then FPC may request an extension of the 18-month period, provided that such request is received by the Department's Bureau of Air Regulation at least 90 days prior to the expiration date. Such a request shall identify the progress made toward commencement of the construction of the site and the expected time required to start and complete construction of the initial phase. The Department may grant the extension upon a satisfactory showing that the extension is justified.

**Specific Condition B.3.**

From: Excess emissions from a turbine resulting from start up, shutdown, malfunction, or load change shall be acceptable providing (1) best operational practices to minimize emissions are adhered to and (2) 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. The permittee shall provide a general description of the procedures to be followed during periods of start up, shutdown, malfunction, or load change to ensure that the best operational practices to minimize emissions will be adhered to and the duration of any excess emissions will be minimized. The description should be submitted to the Department along with the initial compliance test data. The description may be updated as needed by submitting such update to the Department within thirty (30) days of implementation.

To: Excess emissions resulting from startup, shutdown, or malfunction shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized. Excess emissions occurrences shall in no case exceed two hours in any 24-hour period except during a "cold start-up" to combined cycle plant operation. During 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 startup to combined cycle operation following a steam turbine shutdown lasting at least 48 hours. [Applicant Request, Vendor Combined Cycle Startup Curves Data and Rule 62-210.700, F.A.C.].

**PERMITTEE:**  
**Florida Power Corporation**  
**3201 34th Street South**  
**St. Petersburg, FL 33733**

**Permit Number:** PSD-FL-195A/PA-92-33  
**Issued:** 3/1/94 **Revised:** 5/11/99  
**Expiration Date:** November 1, 2000  
**County:** Polk  
**Latitude/Longitude:** 27°47'19"N/81°52'10"W  
**Project:** 500 MW Combined Cycle

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-212 and 62-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and specifically described as follows:

For two combined cycle combustion turbines (CTs) with maximum allowable heat input based on the higher heating value (HHV) at 59°F of 1,866 MMBtu/hr/unit (natural gas) and 1,999 MMBtu/hr/unit (oil) to be located at the Hines Energy Complex near Fort Meade, Florida. Power Block 1 consists of two combined cycle combustion turbines for a total of 500 MW, a 99 MMBtu/hr auxiliary boiler (Subpart Dc), a 1,300 KW diesel generator and a 97,570 barrel fuel oil storage tank (Subpart Kb). The combustion turbines are Westinghouse Model 501FC or equivalent and rated at approximately 165 MW in simple cycle and equipped with dry low NO<sub>x</sub> combustors and/or Selective Catalytic Reduction (SCR) for natural gas firing and wet injection for fuel oil firing. Each combustion turbine will incorporate an unfired heat recovery steam generator.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

---

Howard L. Rhodes, Director  
Division of Air Resources  
Management

Relevant documents are listed below:

1. FPC application received August 4, 1992 and revision received May 4, 1999.
2. The Department's letters dated August 31 and November 13, 1992.
3. FPC's letters dated October 13 and November 30, 1992; June 27 and September 9, 1996; February 18 and June 30, 1998; and the SCR Technical Specification received August 3, 1998.
4. Westinghouse 501FC tables or curves showing Heat Input vs. Compressor Inlet Temperature and Nitrogen Oxide Emissions vs Compressor Inlet Temperature shall be attachments to and are part of this permit.

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. This permit modification is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order (permit modification) has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, 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 must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

\_\_\_\_\_  
Howard L. Rhodes, Director  
Division of Air Resources  
Management

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this permit modification was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on \_\_\_\_\_ to the person(s) listed:

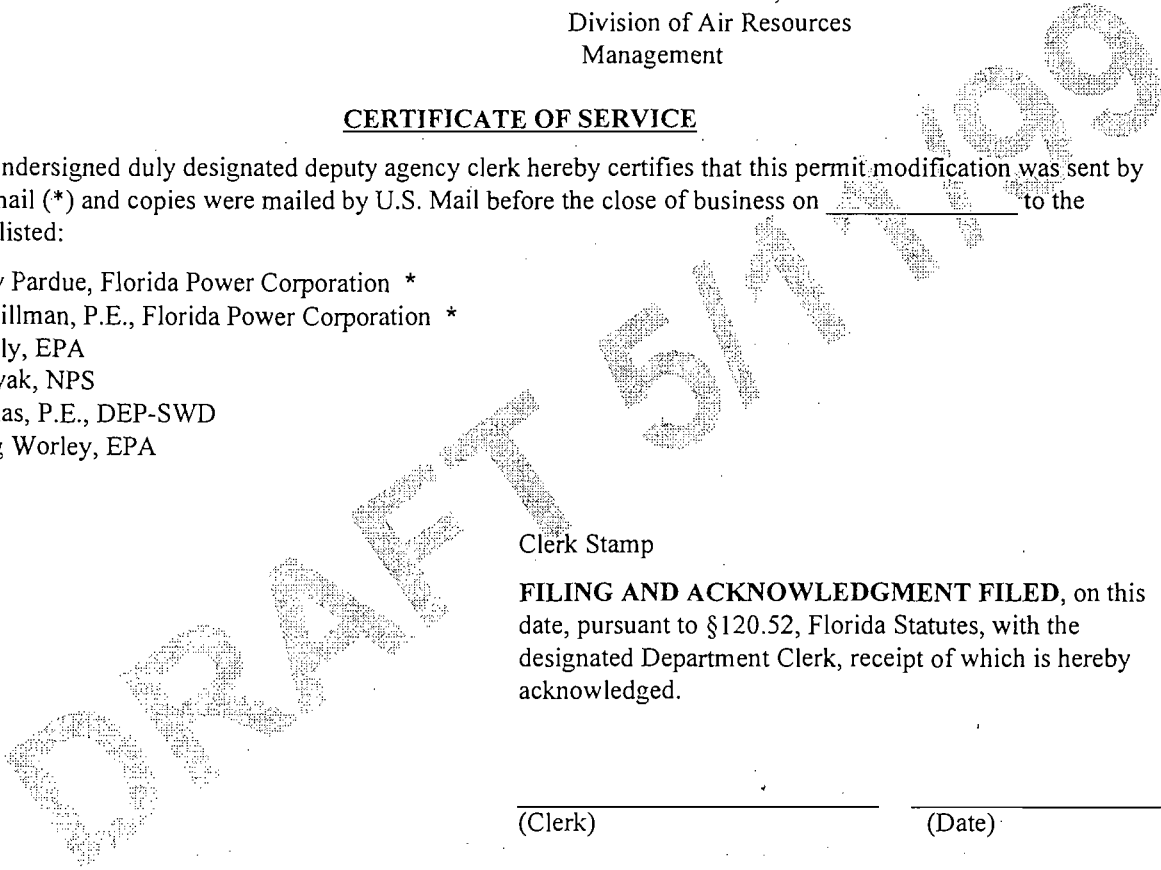
- W. Jeffrey Pardue, Florida Power Corporation \*
- Jennifer Tillman, P.E., Florida Power Corporation \*
- Doug Neely, EPA
- John Bunyak, NPS
- Bill Thomas, P.E., DEP-SWD
- Mr. Gregg Worley, EPA

Clerk Stamp

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

\_\_\_\_\_  
(Clerk)

\_\_\_\_\_  
(Date)





Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

FAX

11 pages

TO: SCOTT Osbourne  
FROM: MIKE HALPIN

Scott -

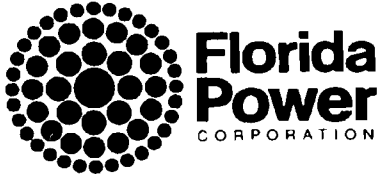
As I mentioned on your voice-mail today,  
the notice is ok to publish if you are ok  
with the permit conditions.

If you are not ok with the conditions,  
your notice may be in vain.

I hope it's ok!

-Mike

Clair - As  
we discussed,  
Referenced  
62-210.700  
on XS emissions, et



AINS 10 #  
1050234

May 3, 1999

Mr. Al Linero, P.E.  
Administrator, New Source Review Section  
Florida Department of Environmental Protection  
2600 Blair Stone Rd.  
Tallahassee, Florida 32399-2400

RECEIVED

MAY 04 1999

BUREAU OF  
AIR REGULATION

Dear Mr. Linero:

Re: FPC's Hines Energy Complex  
Request to Amend PSD Permit

1050234-002-AC

This letter serves to request an amendment to the existing PSD air construction permit (Permit Nos. PSD-FL-195A and PA-92-33) to better reflect the actual operating parameters of the combustion turbines (CTs) associated with Power Block 1. Specifically, in the past several months of engine tuning, debugging and actual operation, data now exist that more fully characterize the performance of the CTs with respect to heat input capability and the time required to achieve compliance during start-ups.

FPC believes that this request constitutes an amendment to the current permit for several reasons. First, the units have been in operation for a relatively short period of time and are still operating under a construction permit. FPC does not believe that representative past actual emissions have yet been established. Therefore, per Rule 62-210.200(12)(b), F.A.C., the Department may presume that unit-specific allowable emissions for these emission units are equivalent to the actual emissions from these emission units. Further, FPC is not requesting an increase of the existing emission limits. Finally, regarding heat input, FPC has demonstrated compliance at an operating level in excess of the current heat input limits.

Regarding start-ups, FDEP regulations allow for excess emissions resulting from start-ups, shut-downs and malfunctions provided that (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions are minimized and may in no case exceed two hours in any 24-hour period, *unless specifically authorized by the Department for a longer duration* (emphasis added). Due to the specific characteristics of these units (i.e., the use of an SCR system and the steam cycle associated with these units), it has been necessary for FPC to contact the Department's Southwest District office upon every start-up, in order to request permission to exceed the two hour allowable in the current permit. In a letter from the District to FPC, dated March 3, 1999 (Attachment 1), the District indicated

that they will continue to handle each of these requests on a case-by-case basis; however, they indicated that their preference is for the issue to be addressed by a change to the permit itself. FPC, in conjunction with Siemens-Westinghouse (SWPC), has determined that the current two-hour allowable is not adequate to achieve compliance from a "cold start". In support of our request to amend the permit to allow up to four hours of excess emissions upon start-up, attached is documentation from SWPC. Specifically, Attachment 1 contains a start-up curve and subsequent letter from SWPC that indicates that it takes at least three hours to achieve compliance from a cold start. FPC's experience in documenting exceedances of the two hour allowable since January of this year leads us to believe that three and one-half to four hours will typically be necessary to achieve compliance from a cold start. FPC requests that the permit be amended accordingly.

*de Awe  
cos  
SPUR*

As a more urgent matter, FPC has determined that the new units at its Hines Energy Complex can out-perform the heat input curves for oil and natural gas fuels. Data obtained during the emissions and performance testing indicates that the units (CT1A and CT1B) can operate in excess of these curves and still achieve compliance with all emission limits by a wide margin. FPC has enclosed three figures (Attachment 2) in support of this request. Specifically, enclosed is a figure for natural gas heat input showing the current heat input curve, the requested revised curve and several data points indicating the actual performance of the CTs. The second curve is a similar figure for fuel oil heat input. The third figure contains the requested curves for oil and gas, to be attached permanently to the permit. The requested curves reflect a five percent increase above the current curves, allowing for the demonstrated capability of the units plus degradation. Attachment 2 contains the degradation curve for these units, as supplied by SWPC.

FPC is working diligently with the Tallahassee Bureau of Air Regulation (BAR) and the Southwest District office in order to obtain an amendment to the current PSD permit that reflects these revised heat input curves, as well as attempting to obtain interim relief from the current heat input curves until a permit change can be made. Based on testing conducted at the site recently, FPC has determined that the forced de-rating of Power Block 1 is impacting potential generation at the site by as much as 20 MWs.

In order to facilitate our request, enclosed are permit application forms reflecting the requested changes, as well as a check for \$250 (Attachment 3). Thank you in advance for your timely consideration of this request. If you should have any questions, please do not hesitate to contact me at (727) 826-4258.

Sincerely,



Scott H. Osbourn  
Senior Environmental Engineer

cc: Bill Proses, DEP SW District

# **ATTACHMENT 1**

Excess Emissions Due to Start-ups

File: Hines III 11/1/99



**BEST AVAILABLE COPY**  
**Department of**  
**Environmental Protection**

**RECEIVED**

**MAR 04 1999**

Environmental Svcs  
Department

Jeb Bush  
Governor

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

David B. Struhs  
Secretary

March 3, 1999

Mr. W. Jeffrey Pardue, C.E.P.  
Director, Environmental Services  
P. O. Box 14042  
St. Petersburg, FL 33733-4042

Subject: Florida Power Corporation's Hines Energy Complex  
Excess Emissions Incidents  
Your Letter, dated February 2, 1999

Dear Mr. Pardue,

On February 22, 1999, Southwest District ("SWD") staff met with Florida Power Corporation ("FPC") representatives to discuss excess emissions incidents at the Hines Energy Complex. During this meeting, FPC informed us of its intention of submitting a request to the Division of Air Resource Management ("DARM") to revise the facility's construction permit to increase the allowed period of excess emissions from two hours to four hours per 24-hour period.

Throughout January and February 1999, FPC has been requesting permission from the SWD to exceed the two hour per 24-hour excess emission period on a case-by-case basis. The question was raised whether this procedure should continue pending DARM's action on FPC's request to extend the allowable period for excess emissions.

After discussing the issue with DARM, FPC should continue to notify the SWD on a case-by-case basis of actual or anticipated periods of excess emissions in accordance with the construction permit's General Condition 8. In the future, the SWD will neither approve nor disapprove any requests to exceed the allowable excess emission period and will decide on a case-by-case basis whether the excess emissions warrant further action.

The SWD is taking this approach based on reservations expressed by our legal staff regarding the language in Rule 62-210.700(1). While the rule allows the Department to authorize excess emission periods greater than two hours, it does not provide a mechanism for issuing the authorization. Incorporating such an authorization into a permit condition clearly seems adequate. What is unclear is whether the Department can authorize increased excess emissions periods outside of the permit process.

Until these concerns are resolved through the rule making process, the SWD will follow the procedure in the second paragraph above.

Sincerely,

W. A. Proses, P. E.  
Air Compliance Section Supervisor

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



**SIEMENS**  
**Westinghouse**

April 5, 1999

HEC1 WFPC429-99

WBS: 020

Mr. David Sands  
Engineering Manager  
**Florida Power Corporation**  
7700 County Road #555  
Bartow, FL 33830

**Subject: Hines Energy Complex, PB1**  
**Startup Time for Emissions Compliance**

Dear Mr. Sands:

In the January 20, 1999 letter WFPC370, a startup curve was submitted which included the SCR. At that time, the SCR was not started until 228 minutes into the start sequence. However, as indicated in the letter, efforts were underway to reduce the startup time of the SCR. It has since been confirmed that the SCR will be capable of starting as soon as the CT reaches 50% load. Per the previously submitted startup curves, this occurs at approximately 168 minutes into the start sequence. The SCR logic has been modified to incorporate this change.

Sincerely,



T.W. Barrett  
Project Director

TWB/db

cc: R.Dunn                      SWPC Site  
D.Barpal                      SWPC MC562

**Siemens Westinghouse Power Corporation**  
*A Siemens Company*

4400 Alafaya Trail  
Orlando, FL 32826-2399

WFPC429-Startup Time for Emissions Compliance

**SIEMENS**  
**Westinghouse**

**BEST AVAILABLE COPY**

X.C.  
1-21  
Scott Willis - (SOPAC)  
Rob Phelps (B&V-Kc)  
DGD  
DAS  
JWA  
DWS  
RBZ

January 20, 1999

HEC1 WFPC370-99  
WBS: 090

Mr. David Sands  
Project Manager  
Florida Power Corporation  
7700 County Road #555  
Bartow, FL 33830

Subject: Hines Energy Complex, PB1  
Start Up Curves, Revised

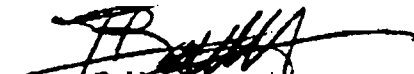
Dear David:

Please find attached a revised start up curve based on discussions between Scott Osborne, Becky McClintock, Bill Agee, George Pyros, Karen Weaver, and Daniel Barpal. It has been revised to include the SCR operation. Please distribute to the Bill Agee, Becky McClintock, and Scott Osborne so they can be reviewed and discussed with Siemens Westinghouse prior to discussions with the DEP.

As explained during the discussions, there are many scenarios on how to start the plant (cold or hot), and this is only one. The attached curve is a conservative case for the time it takes to be in compliance with emissions. Siemens Westinghouse has recently received information from FWEC which should lead to a reduction in the start up time of the SCR. Siemens Westinghouse will monitor the SCR during the next start up to determine if the FWEC suggestion can be implemented. Any changes will be discussed with FPC prior to implementing.

Siemens Westinghouse would like remind you that the formal plant start up curves are to be generated by B&V. The attached scenario does not include any allowances for BOP equipment, which may have a significant impact on the start up.

Sincerely,

  
P.W. Barrett  
Project Manager

TWB/dgb

Attachments: As referenced.

cc: Bob Dunn                      Siemens Westinghouse - Site  
Daniel Barpal                  Siemens Westinghouse - MCS62  
George Pyros                    Siemens Westinghouse - MC504  
Randy Kriesel                  B&V

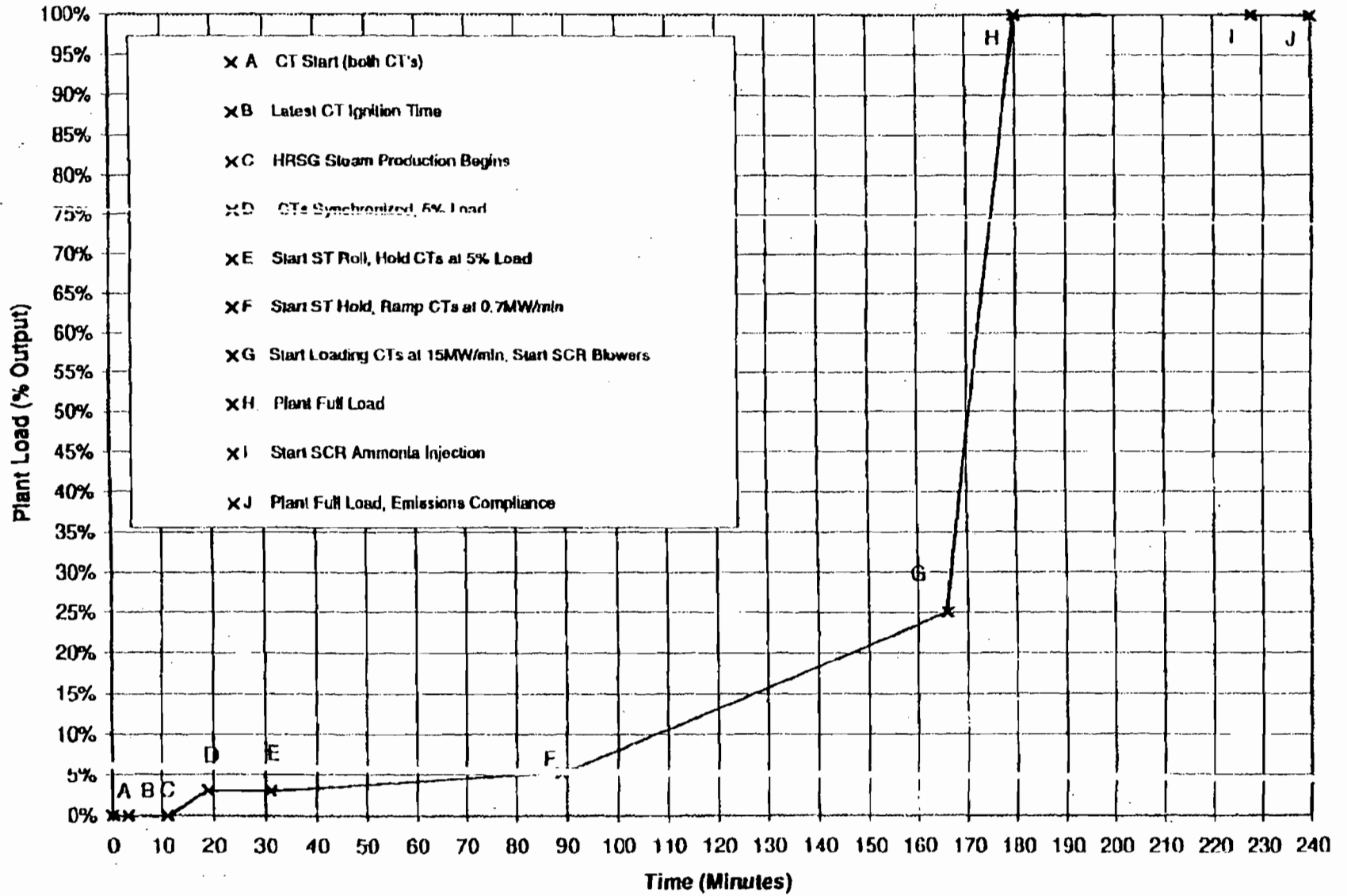
**Siemens Westinghouse Power Corporation**  
A Siemens Company

4400 Alafaya Trail  
Orlando, FL 32826-2399

WFPC370-Start Up Curves, Revised.doc

# HINES ENERGY COMPLEX PB1

## Combined Cycle Start-Up Load Profile - Cold Start (after 72 hour shutdown)



# HINES ENERGY COMPLEX PBI

## Brief Description of Start-Up Curve for Cold Start

<u>Process:</u>	<u>Description:</u>
A-C	Both CT's are started. The exhaust energy from the CT's heats the water in the HRSG's to the point of steam production.
C-D	HRSG's are beginning to produce steam and are continuing to build pressure in the drums. Steam generated is bypassed to the condenser.
D-E	CT's are synchronized to the grid and start generating power.
E-F	Steam is at sufficient pressure and temperature to start partially emitting to the steam turbine. ST roll period is time required to roll the ST to rated speed before synchronization.
F-G	ST is synchronized and CT's are ramped slowly at a rate that is dictated by the ST metal temperatures to soak and warm up the ST.
G-H	CT's are ramped to their fastest ramp rate and the ST follows until the plant achieves base load operation. The SCR blowers are turned on after sufficient exhaust temperature is achieved in the SCR system.
H-I	Plant is at full load and SCR system is warming up before ammonia can be injected.
I-J	SCR ammonia injection system is initiated and NOx is controlled to compliance levels.

# **ATTACHMENT 2**

Heat Input Curves



Lawton Chiles  
Governor

# Department of Environmental Protection

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Virginia B. Wetherell  
Secretary

XC: RBZ  
1-11-99 R McClintock

RECEIVED

JAN 11 1999

Environmental Svcs  
Department

January 8, 1999

Mr. J. Michael Kennedy  
Florida Power Corporation  
Post Office Box 14042, BB1A..  
St. Petersburg, Florida 33733-4042

Re: Performance Testing at Hines Energy Complex

Dear Mr. Kennedy:

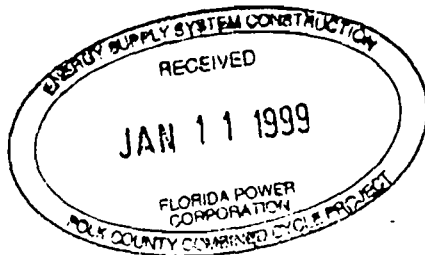
In response to your letter dated January 8, 1998, your request to conduct performance tests operating Units 1A and 1B, at loads for which the heat input curve will be exceeded, is approved. The Department understands that Florida Power Corporation will maintain compliance with its emission limits during the tests.

Please notify the Department when the testing has been completed.

If you have should have any questions, please call me at (813)744-6100 extension 119.

Sincerely,

W. A. Proses, P.E.  
Air Compliance Supervisor



Post-It® Fax Note	7671	Date	1/11/99	# of Pages	1
To	Bill Agee	From	Mike Kennedy		
Co./Dept.		Co.			
Phone #		Phone #			
Fax #	280-6210	Fax #			

**SIEMENS**  
**Westinghouse**

April 28, 1999

HEC1 WFPC455-99  
WBS: 090

Mr. David Sands  
Engineering Manager  
**Florida Power Corporation**  
7700 County Road #555  
Bartow, FL 33830

**Subject: Hines Energy Complex, PB1**  
**Heat Input Curves**

Dear Mr. Sands:

Please find attached revised heat input curves which reflect the actual site conditions. The data contains nominal, 5% margin, and 10% margin data.

Sincerely,



T.W. Barrett  
Project Director

TWB/db

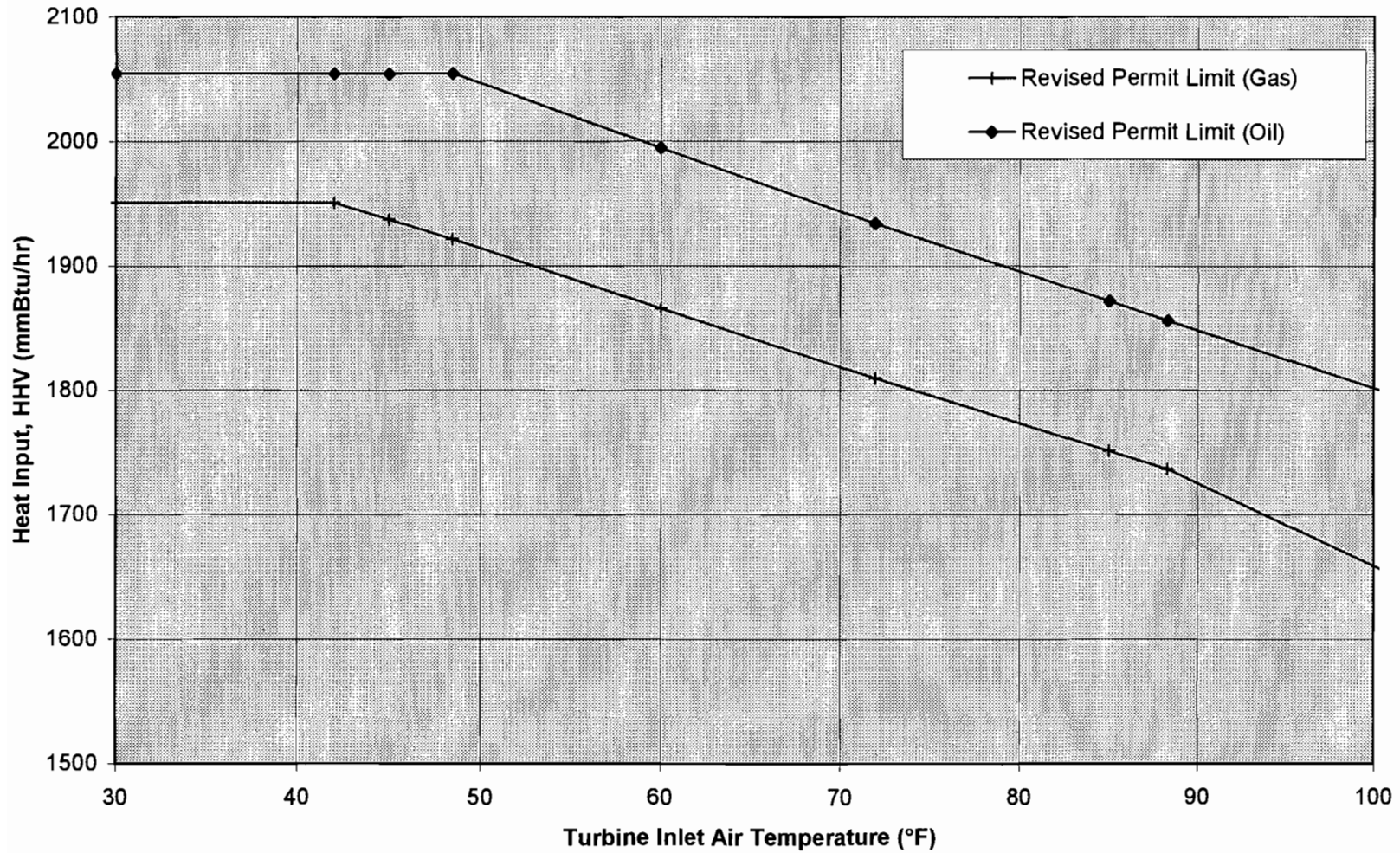
cc:	R. Dunn	SWPC Site
	D. Barpal	SWPC MC562
	S. Osborn	FPC: fax 727/826-4216
	G. Pyros	SWPC MC504
	J. Kraus	SWPC MC590

**Siemens Westinghouse Power Corporation**  
*A Siemens Company*

4400 Alafaya Trail  
Orlando, FL 32826-2399

WFPC455-Heat Input Curves

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

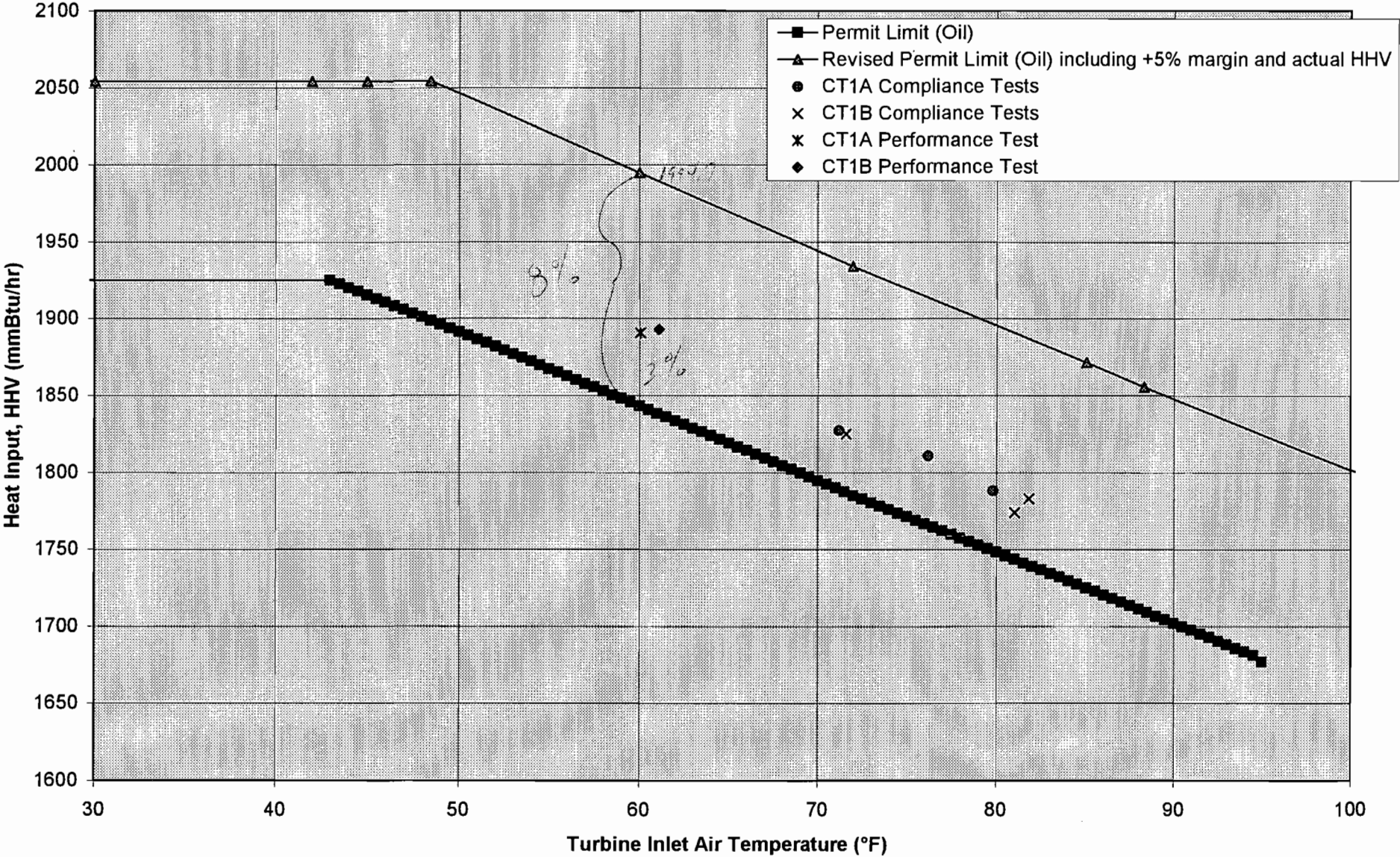




T Ambient (F)	GasHeat Content (Btu/lb)	Gas Fuel Flow (lbm/hr)	GAS Heat Input (MMBtu/hr) HHV	GAS Heat Input 10% Margin	GAS Heat Input 5% Margin
30.0	23210	80050	1857.96	2043.76	1950.86
42.0	23210	80050	1857.96	2043.76	1950.86
45.0	23210	79500	1845.20	2029.71	1937.45
48.5	23210	78845	1829.99	2012.99	1921.49
60.0	23210	76550	1776.73	1954.40	1865.56
72.0	23210	74250	1723.34	1895.68	1809.51
85.0	23210	71850	1667.64	1834.40	1751.02
88.3	23210	71260	1653.94	1819.34	1736.64
105.0	23210	66700	1548.11	1702.92	1625.51

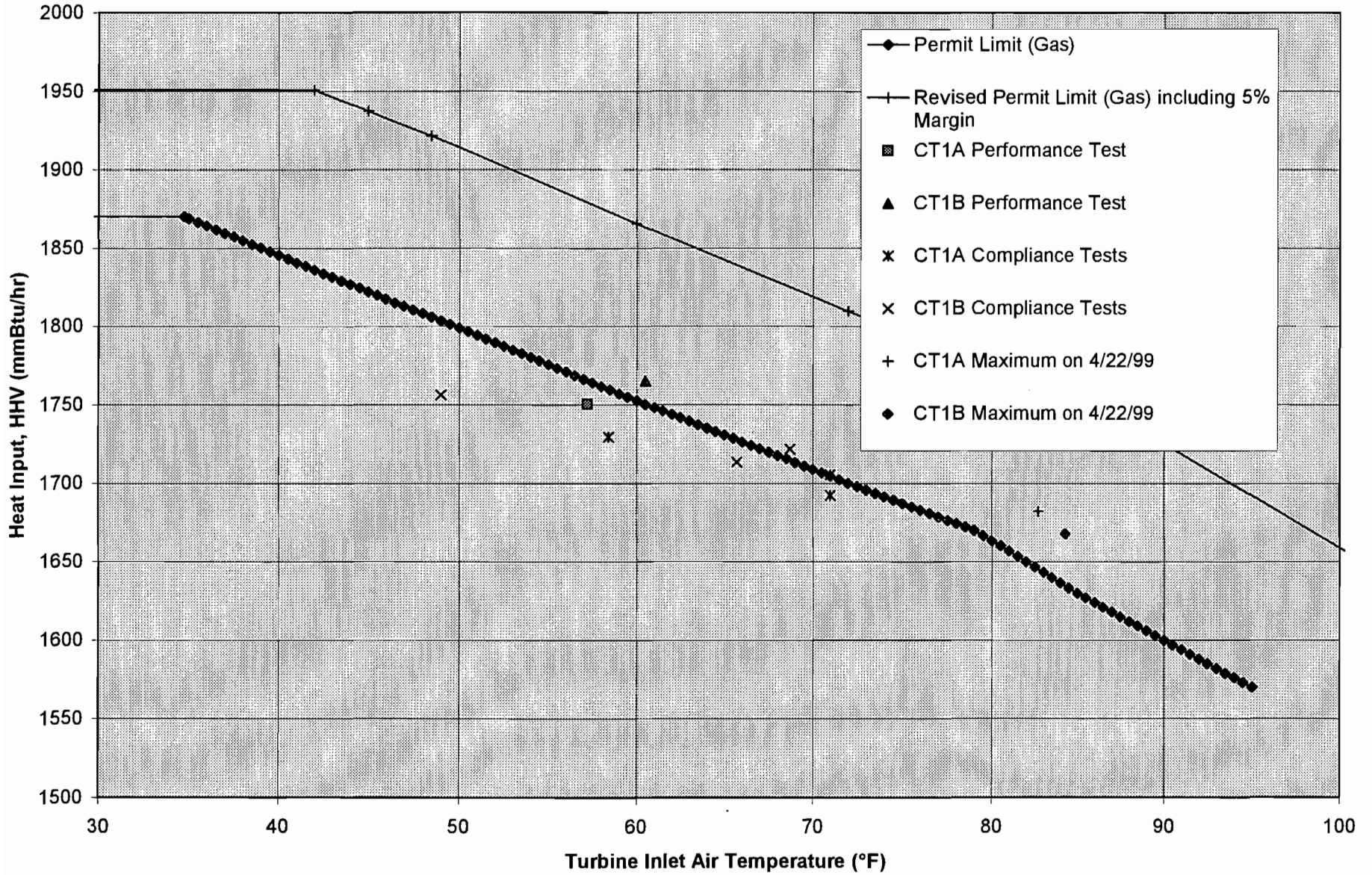
T Ambient (F)	Oil Fuel Flow (lbm/hr)	Oil Heat Content (Btu/lb)	Permit Heat Input (MMbtu/hr)	Proposed Heat Input Including 5% Margin	Proposed Heat Input Including 10% Margin
0.0	98300	19903	1956.5	2054.3	2152.1
30.0	98300	19903	1956.5	2054.3	2152.1
42.0	98300	19903	1956.5	2054.3	2152.1
45.0	98300	19903	1956.5	2054.3	2152.1
48.5	98300	19903	1956.5	2054.3	2152.1
60.0	95450	19903	1899.7	1994.7	2089.7
72.0	92550	19903	1842.0	1934.1	2026.2
85.0	89550	19903	1782.3	1871.4	1960.5
88.3	88800	19903	1767.4	1855.8	1944.1
105.0	85100	19903	1693.7	1778.4	1863.1

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



Gas Comparison Chart

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



# SIEMENS

## Westinghouse

Siemens Westinghouse Power Corporation  
A Siemens Company

### Fax

To: Bill Agee  
Fax: 941-519-6210  
Phone: 941-519-6103  
Date: 1/19/99

From: George Pyros  
Phone: 407-281-5871  
Fax: 407-281-5007  
E-Mail:  
Pages to Follow: 1

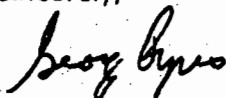
### Message:

Bill,

Attached is a typical degradation curve that was taken from a degradation paper sent to FPC in May of '97. The curve depicts two lines. The top line represents operating the units without any attempts to recover degradation (such as off-line compressor water washing, filter changing, etc). The bottom line represents degradation that can not be recovered without a cover lift and replacing components.

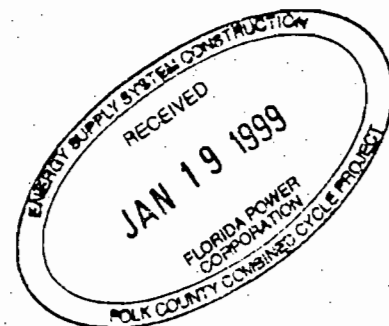
Please note that the x-axis is equivalent operating hours, and that the y-axis pertains to power degradation. As noted, heat rate degradation is 50-80% of power degradation. So, worst case scenario is that after 50,000 EOH, the heat rate degrades by  $8 * 0.8 = 6.4\%$ .

Sincerely,



George Pyros

cc: Thomas Barrett MC 562  
Daniel Barpal MC 562  
Karen Weaver MC 590  
Jason Kraus MC 590

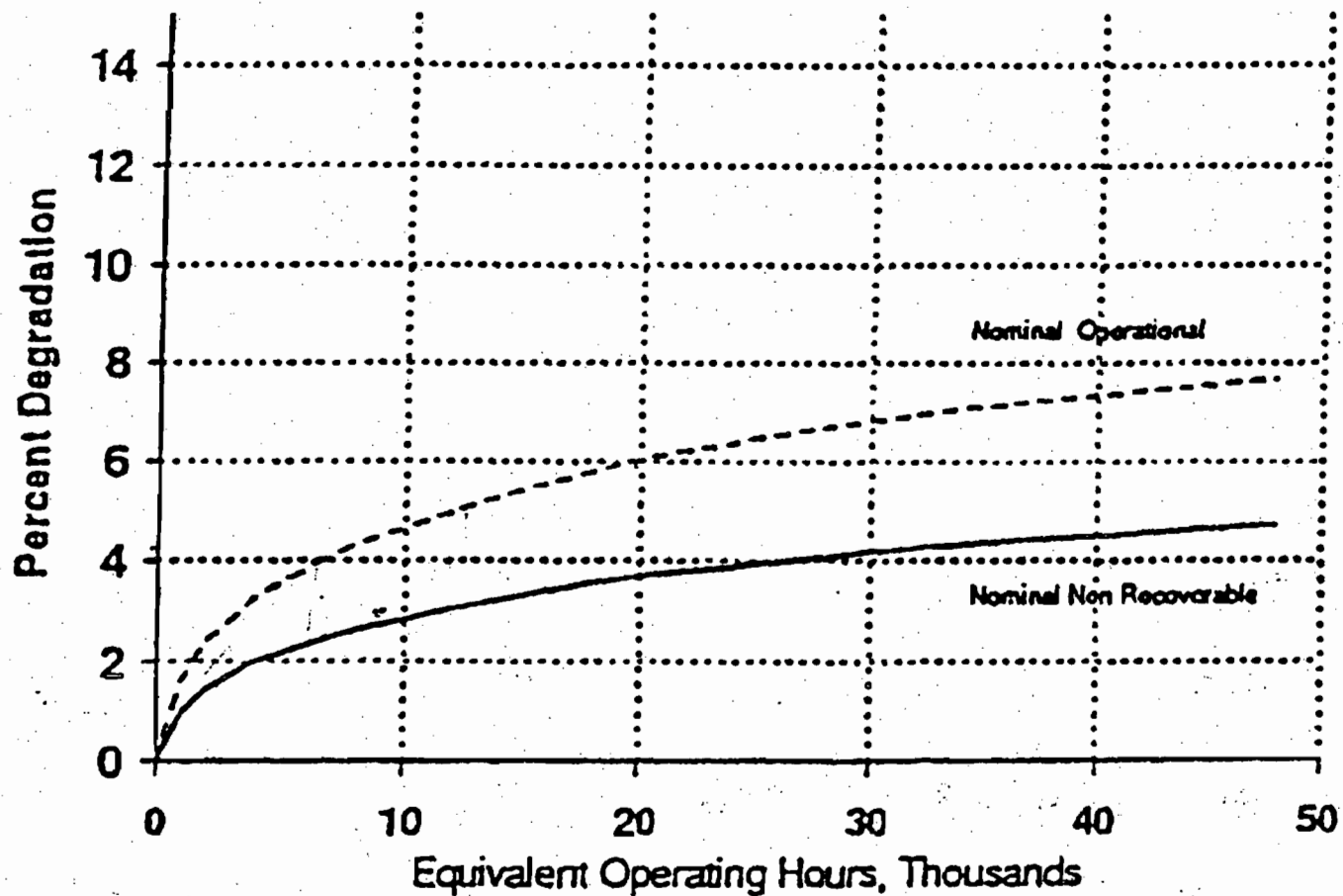


This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited.

If you have received this communication in error, please notify us immediately by telephone and return the original message to us at the address below via your Postal Service.

# Power Degradation

## Operational and Non-Recoverable



**Notes:**

1. Heat Rate degradation is typically 50 to 80 percent of power degradation.
2. Recoverable degradation = Operational degradation - Non recoverable degradation.
3. Majority of non-recoverable degradation can be recovered with cover fit and refurbishment.
4. Degradation recovery from the hot gas path inspection and major overhaul are not shown since the timing of these inspection & repair intervals are established based on starts or hours rather than equivalent operating hours.

GTUA Conference 6/95

Figure G07 1

## **ATTACHMENT 3**

Application and Processing Fee

# Department of Environmental Protection

## DIVISION OF AIR RESOURCES MANAGEMENT

### APPLICATION FOR AIR PERMIT - LONG FORM

See Instructions for Form No. 62-210.900(1).

#### I. APPLICATION INFORMATION

This section of the Application for Air Permit form identifies the facility and provides general information on the scope and purpose of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department using ELSA, this section of the Application for Air Permit must also be submitted in hard-copy.

#### Identification of Facility Addressed in This Application

Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility site name, if any; and the facility's physical location. If known, also enter the facility identification number.

1. Facility Owner/Company Name: <b>Florida Power Corporation</b>	
2. Site Name: <b>Hines Energy Complex</b>	
3. Facility Identification Number: <b>1050234</b> [ ] Unknown	
4. Facility Location Information: Street Address or Other Locator: <b>County Rd 555; 2.5m S of CR 640</b> City: <b>Bartow</b> County: <b>Polk</b> Zip Code: <b>33830</b>	
5. Relocatable Facility? [ ] Yes [x] No	6. Existing Permitted Facility? [x] Yes [ ] No

#### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	



1. Name and Title of Owner/Authorized Representative or Responsible Official:

W. Jeffrey Pardue, Dir. Environmental Services Dept.

2. Owner/Authorized Representative or Responsible Official Mailing Address:

Organization/Firm: Florida Power Corporation

Street Address: One Power Plaza, 263-13th Ave S

City: St. Petersburg

State: FL

Zip Code: 33701-5511

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:

Telephone: (727) 826-4301

Fax: (727) 826-4216

4. Owner/Authorized Representative or Responsible Official Statement:

*I, the undersigned, am the owner or authorized representative\* of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.*

*W. Jeffrey Pardue*, DEP for W.J. Pardue May 3, 1999  
Signature Date

\* Attach letter of authorization if not currently on file.



Kenneth E. Armstrong  
Vice President and General Counsel

March 31, 1998

TO WHOM IT MAY CONCERN:

Subject: Letter of Authorization

Please be advised that W. Jeffrey Pardue, Director, Environmental Services Department; Sharon K. Momberg, Manager of Waste Management Programs; Kent D. Hedrick, Manager of Water Programs; and J. Michael Kennedy, Manager of Air Programs, are authorized to represent Florida Power Corporation in matters relating to necessary permits and reporting documentation required from regulatory authorities in the areas of air, water, power plant site certifications and transmission line certifications, or hazardous and solid materials issues.

Very truly yours,

A handwritten signature in black ink that reads "Kenneth E. Armstrong". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Kenneth E. Armstrong

K:\KEA\MISC\pardue.esd

Scope of Application

This Application for Air Permit addresses the following emissions unit(s) at the facility. An Emissions Unit Information Section (a Section III of the form) must be included for each emissions unit listed.

Emissions Unit ID		Description of Emissions Unit	Permit Type
Unit #	Unit ID		
1R	---	CT-1; Power Block 1	AF2A
2R	---	CT-2; Power Block 1	AF2A

See individual Emissions Unit (EU) sections for more detailed descriptions.  
Multiple EU IDs indicated with an asterisk (\*). Regulated EU indicated with an "R".

**Purpose of Application a    Category**

Check one (except as otherwise indicated):

**Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.**

This Application for Air Permit is submitted to obtain:

- Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.
- Initial air operation permit under Chapter 62-213, F.A.C., for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: PSD-FL-195A/PA-92-33

- Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed: \_\_\_\_\_

- Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: \_\_\_\_\_

Operation permit to be renewed: \_\_\_\_\_

- Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. Also check Category III.

Operation permit to be revised/corrected: \_\_\_\_\_

- Air operation permit revision for a Title V source for reasons other than construction or modification of an emissions unit. Give reason for the revision e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_

\_\_\_\_\_

**Category II: All Air Construction Permit Applications Subject to Processing Under Rule 62-210.300(2)(b), F.A.C.**

This Application for Air Permit is submitted to obtain:

- [ ] Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s): \_\_\_\_\_  
\_\_\_\_\_

- [ ] Renewal air operation permit under Rule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed: \_\_\_\_\_

- [ ] Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_  
\_\_\_\_\_

**Category III: All Air Construction Permit Applications for All Facilities and Emissions Units.**

This Application for Air Permit is submitted to obtain:

- [ ] Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any: \_\_\_\_\_  
\_\_\_\_\_

- [ ] Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

Current operation permit number(s): \_\_\_\_\_  
\_\_\_\_\_

- [ ] Air construction permit for one or more existing, but unpermitted, emissions units.

**Application Processing Fee**

Check one:

Attached - Amount: \$250.00

Not Applicable.

**Construction/Modification Information**

1. Description of Proposed Project or Alterations:  Power Block 1 consists of two nominal 165 MW Westinghouse 501F combustion turbines (CTs), two unfired heat recovery steam generators (HRSGs), and one 170 MW steam turbine; nominal rating of 500 MW combined cycle unit.
2. Projected or Actual Date of Commencement of Construction :
3. Projected Date of Completion of Construction :

**Professional Engineer Certification**

1. Professional Engineer Name: <b>Jennifer Tillman</b> Registration Number: 52125
2. Professional Engineer Mailing Address: Organization/Firm: <b>Florida Power Corporation</b> Street Address: <b>One Power Plaza 263-13th Ave S</b> City: <b>St. Petersburg</b> State: <b>FL</b> Zip Code: <b>33701-5511</b>
3. Professional Engineer Telephone Numbers: Telephone: <b>(727) 826- 4132</b> Fax: <b>(727) 826-4216</b>

4. Professional Engineer Statement:

*I, the undersigned, hereby certify, except as particularly noted herein\*, that:*

*(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and*

*(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.*

*If the purpose of this application is to obtain a Title V source air operation permit (check here [ ] if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.*

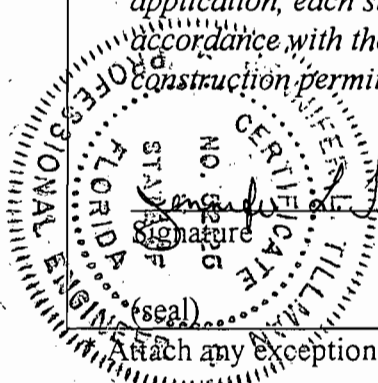
*If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [ ] if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.*

*If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ x ] if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.*

*Signature* \_\_\_\_\_

*5/3/99*  
Date

Attach any exception to certification statement.







## II. FACILITY INFORMATION

### A. GENERAL FACILITY INFORMATION

#### Facility Location and Type

1. Facility UTM Coordinates: Zone: 17                      East (km): 414.4                      North (km): 3073.9			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): 27 / 47 / 19                      Longitude: (DD/MM/SS): 81 / 52 / 10			
3. Governmental Facility Code: 0	4. Facility Status Code: C	5. Facility Major Group SIC Code: 49	6. Facility SIC(s): 4911
7. Facility Comment (limit to 500 characters):  Power Block 1 is a nominal 500 MW combined cycle unit consisting of 2 CTs, 2 HRSG's and 1 steam turbine. The CTs fire natural gas with distillate oil as backup. The HRSGs are unfired.			

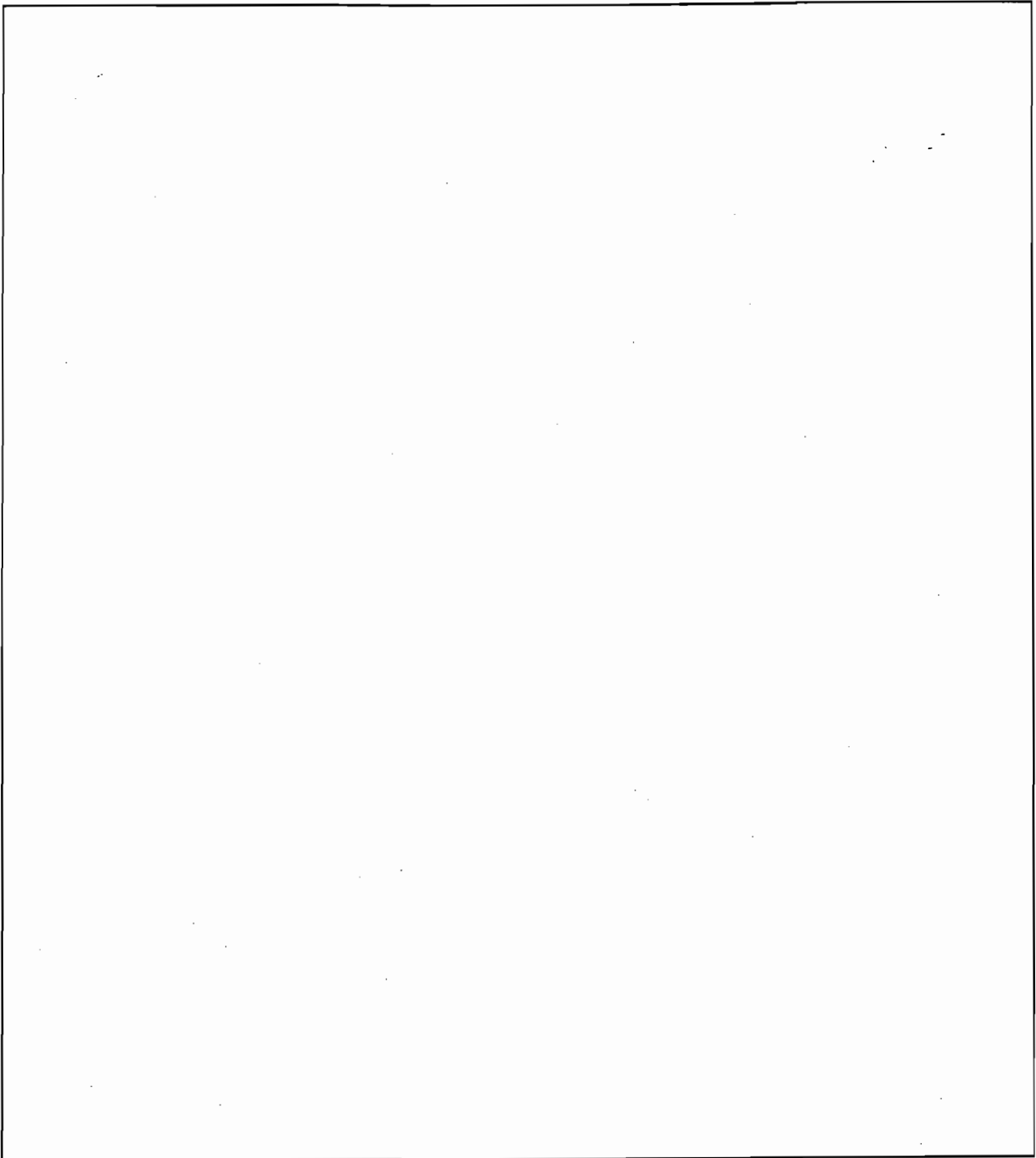
#### Facility Contact

1. Name and Title of Facility Contact: David Sorrick, Plant Manager			
2. Facility Contact Mailing Address: Organization/Firm: Hines Energy Complex Street Address: 7700 County Road 555 City: Bartow                      State: FL                      Zip Code: 33830			
3. Facility Contact Telephone Numbers: Telephone: (941) 519-6201                      Fax: (941) 519-6210			



## B. FACILITY REGULATIONS

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)



**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Title V Core List - Effective 3/26/97

## C. FACILITY POLLUTANTS

### Facility Pollutant Information

1. Pollutant Emitted	2. Pollutant Classification
PM Particulate Matter - Total	A
SO2 Sulfur Dioxide	A
NOx Nitrogen Oxides	A
CO Carbon Monoxide	A
VOC Volatile Organic Compounds	A
SAM Sulfuric Acid Mist	A

**III. EMISSIONS UNIT INFORMATION**

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)****Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Unit? Check one:

The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

**B. GENERAL EMISSIONS UNIT INFORMATION**  
**(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): CT-1; Power Block 1		
2. Emissions Unit Identification Number:    [    ] No Corresponding ID    [ <b>x</b> ] Unknown		
3. Emissions Unit Status Code: <b>c</b>	4. Acid Rain Unit? [ <b>x</b> ] Yes [    ] No	5. Emissions Unit Major Group SIC Code: <b>49</b>
6. Emissions Unit Comment (limit to 500 characters): Westinghouse 501 F combustion turbine firing natural gas with distillate oil back-up.		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):  Dry Low NOx combustion-natural gas firing
2. Control Device or Method Code: 25

B.

1. Description (limit to 200 characters):  Selective Catalytic Reduction (SCR) - natural gas firing
2. Control Device or Method Code: 65

C.

1. Description (limit to 200 characters):  Water Injection - distillate oil firing
2. Control Device or Method Code: 28



**C. EMISSIONS UNIT DETAIL INFORMATION**  
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	8/13/98	
2. Long-term Reserve Shutdown Date:		
3. Package Unit:		
Manufacturer:	Westinghouse	Model Number: 501F
4. Generator Nameplate Rating:	165 MW	
5. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	1,866	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		
	Heat input is HHV; heat input at 59 degree F turbine inlet temperature; MW nominal rating. Heat input for oil is 2,090 MMBtu/hr at 59 degrees F (HHV).	

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	hours/day	days/week
	weeks/yr	8,760 hours/yr

**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

A large, empty rectangular box with a thin black border, occupying the central portion of the page. It is intended for the user to provide a Rule Applicability Analysis for Category II and III applications involving non Title-V sources.

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment HEC-EU1-D

**E. EMISSION POINT (STACK/VENT) INFORMATION**  
(Regulated Emissions Units Only)

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: HEC-FE-2	
2. Emission Point Type Code: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): Exhausts through a single stack.	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height:	120 feet
7. Exit Diameter:	18 feet
8. Exit Temperature:	265 °F

9. Actual Volumetric Flow Rate:	1,108,466 acfm	
10. Percent Water Vapor:	%	
11. Maximum Dry Standard Flow Rate:	dscfm	
12. Nonstack Emission Point Height:	feet	
13. Emission Point UTM Coordinates:		
Zone: 17	East (km): 414.4	North (km): 3073.9
14. Emission Point Comment (limit to 200 characters):	Flow Rate at 59 degrees F.	

**F. SEGMENT (PROCESS/FUEL) INFORMATION**  
 (Regulated and Unregulated Emissions Units)

**Segment Description and Rate:** Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):  <b>Natural Gas</b>	
2. Source Classification Code (SCC):  <b>2-01-002-01</b>	
3. SCC Units:  <b>Million Cubic Feet</b>	
4. Maximum Hourly Rate:  <b>1.78</b>	5. Maximum Annual Rate:  <b>15,593</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:  <b>1,050</b>	
10. Segment Comment (limit to 200 characters):  <b>Based on 1,050 BTU/CF (HHV); maximum hourly and annual at 59 degrees F; turbine inlet temperatures.</b>	

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Distillate Fuel Oil	
2. Source Classification Code (SCC): 2-01-001-01	
3. SCC Units: 1,000 Gallons Used	
4. Maximum Hourly Rate: 16.2	5. Maximum Annual Rate: 6,881
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 0.05	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 129	
10. Segment Comment (limit to 200 characters): BTU based on HHV of 129 MMBtu/1,000 gallons. Aggregate fuel usage of 13,762,806 gallons per year authorized for Power Block 1.	

**J. CONTINUOUS MONITOR INFORMATION  
(Regulated Emissions Units Only)**

**Continuous Monitoring System** Continuous Monitor 1 of 2

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>NOx</b>
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: <b>TECO/Spectrum</b> Model Number: <b>42C</b> Serial Number: <b>42C-58559-318</b>	
5. Installation Date: <b>October 1998</b>	
6. Performance Specification Test Date: <b>initial RATA 1/8/99</b>	
7. Continuous Monitor Comment (limit to 200 characters):  <b>NOx CEM required by 40 CFR Part 75. A carbon dioxide monitor included.</b>  Per FDEP Rule 62-210.700(2), requesting up to 4 hours (240 minutes) per 24 hours for start-ups, shutdowns and malfunctions.	

**Continuous Monitoring System** Continuous Monitor 2 of 2

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>NOx</b>
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: <b>Westinghouse</b> Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):  <b>Parameter Code: WTF. Required by 40 CFR 60; Subpart GG; S.60.334; oil firing.</b> <b>Request NOx CEM in lieu of WTF monitoring.</b>	



**III. EMISSIONS UNIT INFORMATION**

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)****Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Unit? Check one:

[ x ] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[ x ] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): <b>CT-2; Power Block 1</b>		
2. Emissions Unit Identification Number: <input type="checkbox"/> No Corresponding ID <input checked="" type="checkbox"/> Unknown		
3. Emissions Unit Status Code: <b>C</b>	4. Acid Rain Unit? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: <b>49</b>
6. Emissions Unit Comment (limit to 500 characters): <b>Westinghouse 501 F combustion turbine firing natural gas with distillate oil back-up.</b>		

**Emissions Unit Control Equipment Information**

A.

1. Description (limit to 200 characters):  Dry Low NOx combustion-natural gas firing
2. Control Device or Method Code: 25

B.

1. Description (limit to 200 characters):  Selective Catalytic Reduction (SCR) - natural gas firing
2. Control Device or Method Code: 65

C.

1. Description (limit to 200 characters):  Water Injection - distillate oil firing
2. Control Device or Method Code: 28

**C. EMISSIONS UNIT DETAIL INFORMATION**  
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	8/13/98	
2. Long-term Reserve Shutdown Date:		
3. Package Unit:		
Manufacturer:	Westinghouse	Model Number: 501F
4. Generator Nameplate Rating:	165 MW	
5. Incinerator Information:		
Dwell Temperature:		°F
Dwell Time:		seconds
Incinerator Afterburner Temperature:		°F

Emissions Unit Operating Capacity

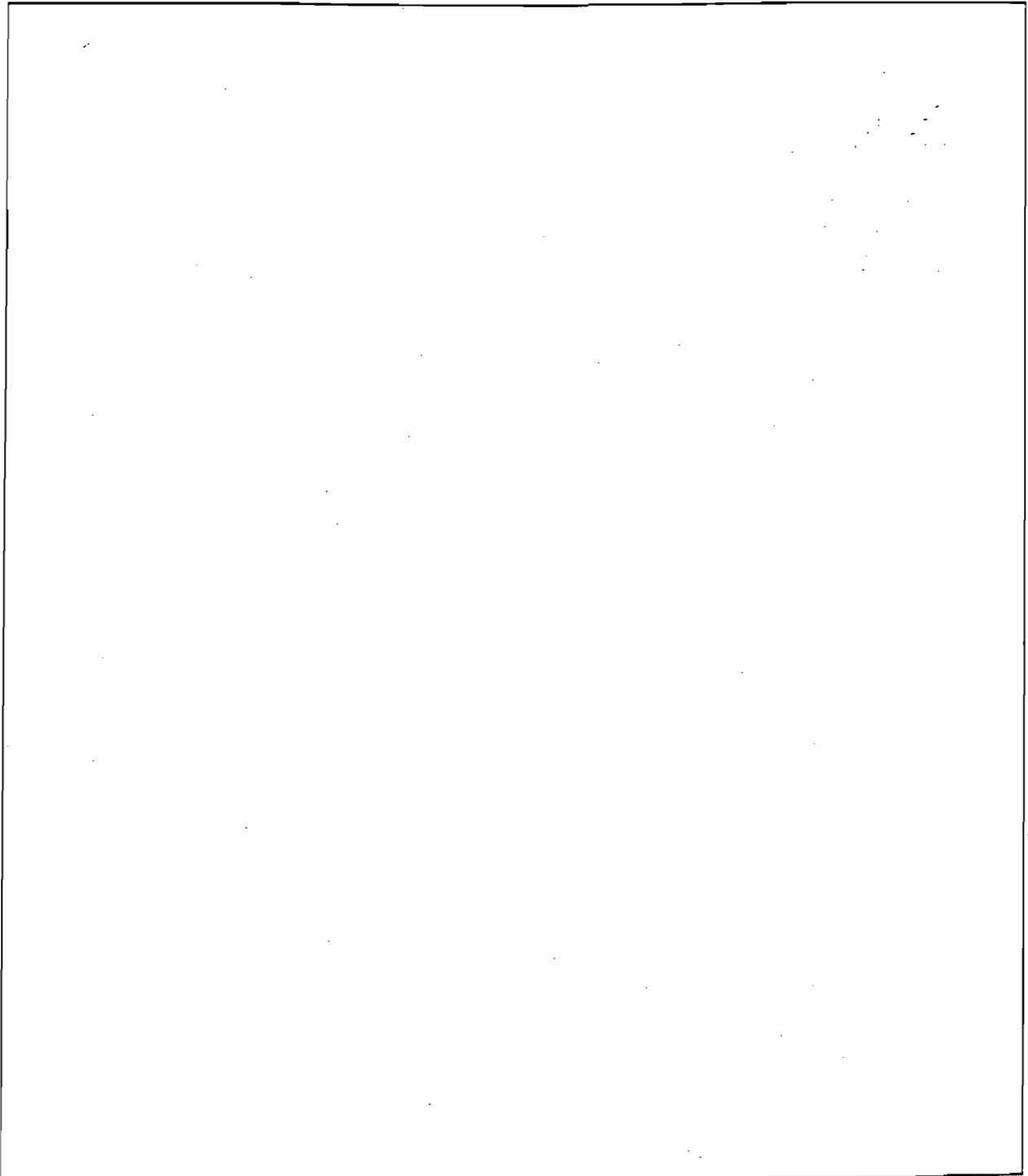
1. Maximum Heat Input Rate:	1,866	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		
Heat input is HHV; heat input at 59 degree F turbine inlet temperature; MW nominal rating. Heat input for oil is 2,090 MMBtu/hr at 59 degrees F (HHV).		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	hours/day	days/week
	weeks/yr	8,760 hours/yr

**D. EMISSIONS UNIT REGULATIONS**  
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)



**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment HEC-EU1-D

**E. EMISSION POINT (STACK/VENT) INFORMATION**  
(Regulated Emissions Units Only)

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: HEC-FE-2	
2. Emission Point Type Code: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): Exhausts through a single stack.	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height:	120 feet
7. Exit Diameter:	18 feet
8. Exit Temperature:	265 °F

9. Actual Volumetric Flow Rate:	1,108,466 acfm	
10. Percent Water Vapor:	%	
11. Maximum Dry Standard Flow Rate:	dscfm	
12. Nonstack Emission Point Height:	feet	
13. Emission Point UTM Coordinates:		
Zone: 17	East (km): 414.4	North (km): 3073.9
14. Emission Point Comment (limit to 200 characters):	Flow Rate at 59 degrees F.	



Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Distillate Fuel Oil	
2. Source Classification Code (SCC): 2-01-001-01	
3. SCC Units: 1,000 Gallons Used	
4. Maximum Hourly Rate: 16.2	5. Maximum Annual Rate: 6,881
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 0.05	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 129	
10. Segment Comment (limit to 200 characters): BTU based on HHV of 129 MMBtu/1,000 gallons. Aggregate fuel usage of 13,762,806 gallons per year authorized for Power Block 1.	

Z 031 391 946

US Postal Service  
**Receipt for Certified Mail**

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

PS Form 3800, April 1995

Sent to: <i>Jeff Pardue</i>	
Street & Number: <i>FPC</i>	
Post Office, State, & ZIP Code: <i>St. Pete FL</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date: <i>1050234 4-13-00</i> <i>PSD-FI-195B</i>	

SENDER: COMPLETE THIS SECTION

Fold at line over top of envelope to the right of the return address

SECTION ON DELIVERY

- 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. Jeffrey Pardue, CEP  
Director Env. Serv.  
FPC  
PO Box 14042 MAC BBIA  
St. Petersburg, FL  
33733*

A. Received by (Please Print Clearly) B. Date of Delivery

C. Signature

*X [Signature]*  Agent  Addressee

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

2. Article Number (Copy from service label)

*Z 031 391 946*

Z. 333 618 157

US Postal Service  
**Receipt for Certified Mail**

No Insurance Coverage Provided.  
Do not use for International Mail (See reverse)

Sent to <b>Jeff Fardue</b>	
Street & Number <b>FPC - Hines</b>	
Post Office, State, & ZIP Code <b>St. Pete, FL</b>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date <b>1050234-002-AC 5-27-99</b> <b>PSD-FI-195A</b>	

PS Form 3800, April 1995

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:  
**Jeffrey Fardue, Director**  
**FPC - Hines**  
**One Power Plaza**  
**263 13th Ave South**  
**St. Pete, FL 33701**

4a. Article Number  
**Z 333 618 157**

4b. Service Type

Registered  Certified

Express Mail  Insured

Return Receipt for Merchandise  COD

7. Date of Delivery  
**6-1-99**

8. Addressee's Address (Only if requested and fee is paid)

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)  
**X Jane Clark**

PS Form 3800, April 1995

Thank you for using Return Receipt Service.

Postage and Fees Paid

Z 333 618 145

US Postal Service

**Receipt for Certified Mail**

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to Jeff. Pardue	
Street & Number EPC	
Post Office, State, & ZIP Code St. Pete, FL	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date PSD-FI-195A Hines	5-12-99

PS Form 3800, April 1995

Is your RETURN ADDRESS completed on the reverse side?

**SEND**

- Complete the return address on the reverse side.
- Complete the return address on the reverse side.
- Print the name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

Additional services (for an extra fee):

- 1.  Addressee's Address
- 2.  Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:  
W. Jeffrey Pardue  
Fla. Power Corp  
263 13th Ave South  
St. Pete, FL 33701

4a. Article Number  
Z 333 618 145

4b. Service Type  
 Registered  Certified  
 Express Mail  Insured  
 Return Receipt for Merchandise  COD

7. Date of Delivery  
5/10/99

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)  
X [Signature]

Thank you for using Return Receipt Service.