AIRS ID #
1050234

Florida Power
CORPORATION

May 3, 1999

RECEIVED
MAY 04 1999
BUREAU OF
AIR REGULATION

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: 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

One Power Plaza • 263 – 13th Avenue South • St. Petersburg, Florida 33701-5511
P.O. Box 14042 • St. Petersburg, Florida 33733-4042 • (727) 820-5151
A Florida Progress Company

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.

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 HR Correspn.

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

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

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

XC: Scott Willis - (SWPC)
1-21 Rob Phelps (BW-KC)

DGD DWS
DAS RBZ
JWA

SIEMENS
Westinghouse

January 20, 1999

HEC1 WPPC370-99
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 or 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 emmisions. 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,

T.W. Barrett
Project Manager

TWB/dgb

Attachments: As referenced.

cc: Bob Dunn — Siemens Westinghouse - Site
Daniel Barpal — Siemens Westinghouse - MC562
George Pyros — Siemens Westinghouse - MC504
Randy Kriesel — B&V

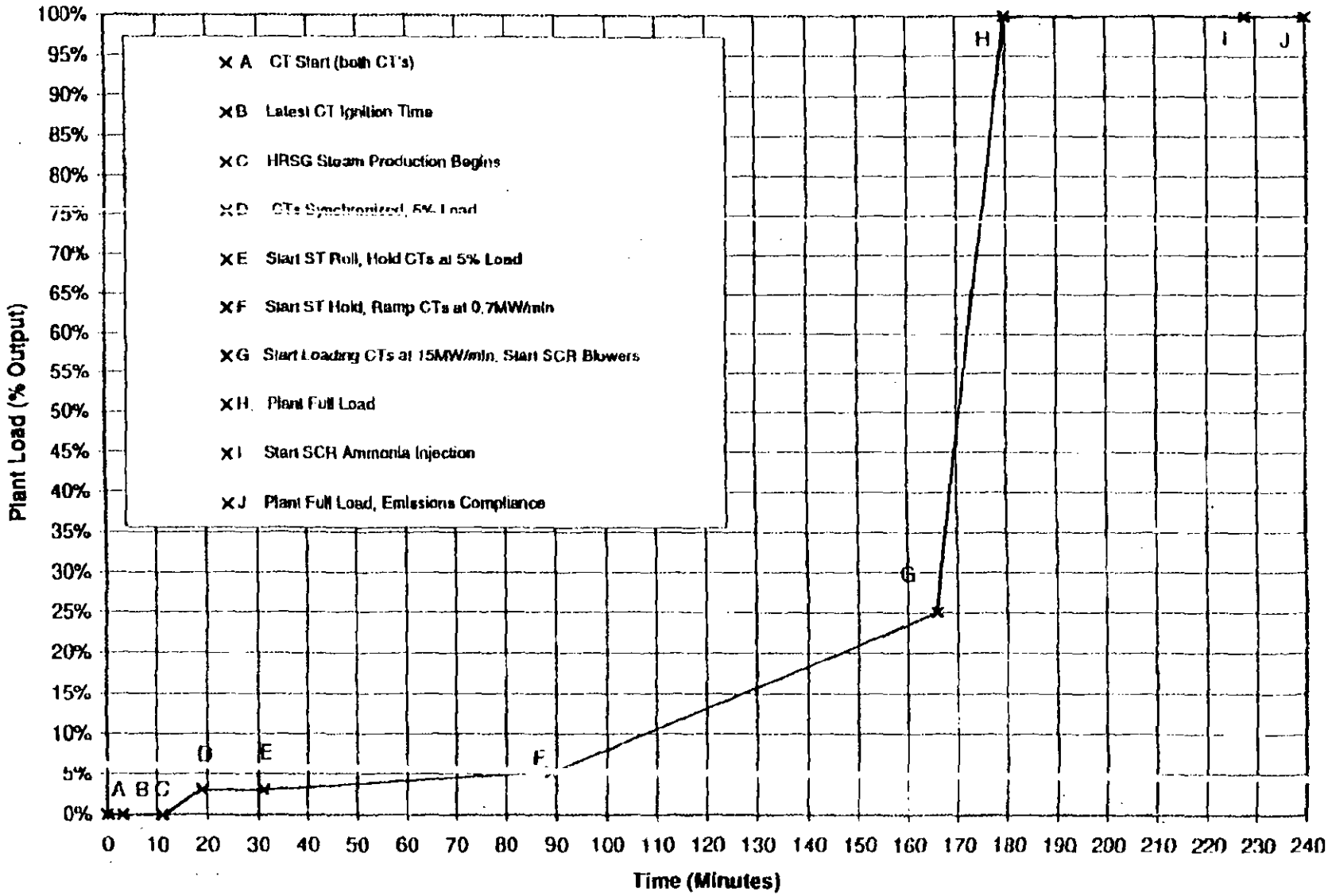
Siemens Westinghouse Power Corporation
A Siemens Company

4400 Alafaya Trail
Orlando, FL 32826-2399

WPPC370-Start Up Curves, Revised.doc

HINES ENERGY COMPLEX PB1

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



HINES ENERGY COMPLEX PB1

Brief Description of Start-Up Curve for Cold Start

Process:	Description:
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

xc: RBZ
1-11-99 R McCluskey

Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

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, 1999, 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

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

ENERGY SUPPLY SYSTEM CONSTRUCTION
RECEIVED
JAN 11 1999
FLORIDA POWER CORPORATION
POLK COUNTY COMBINED CYCLE PROJECT

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

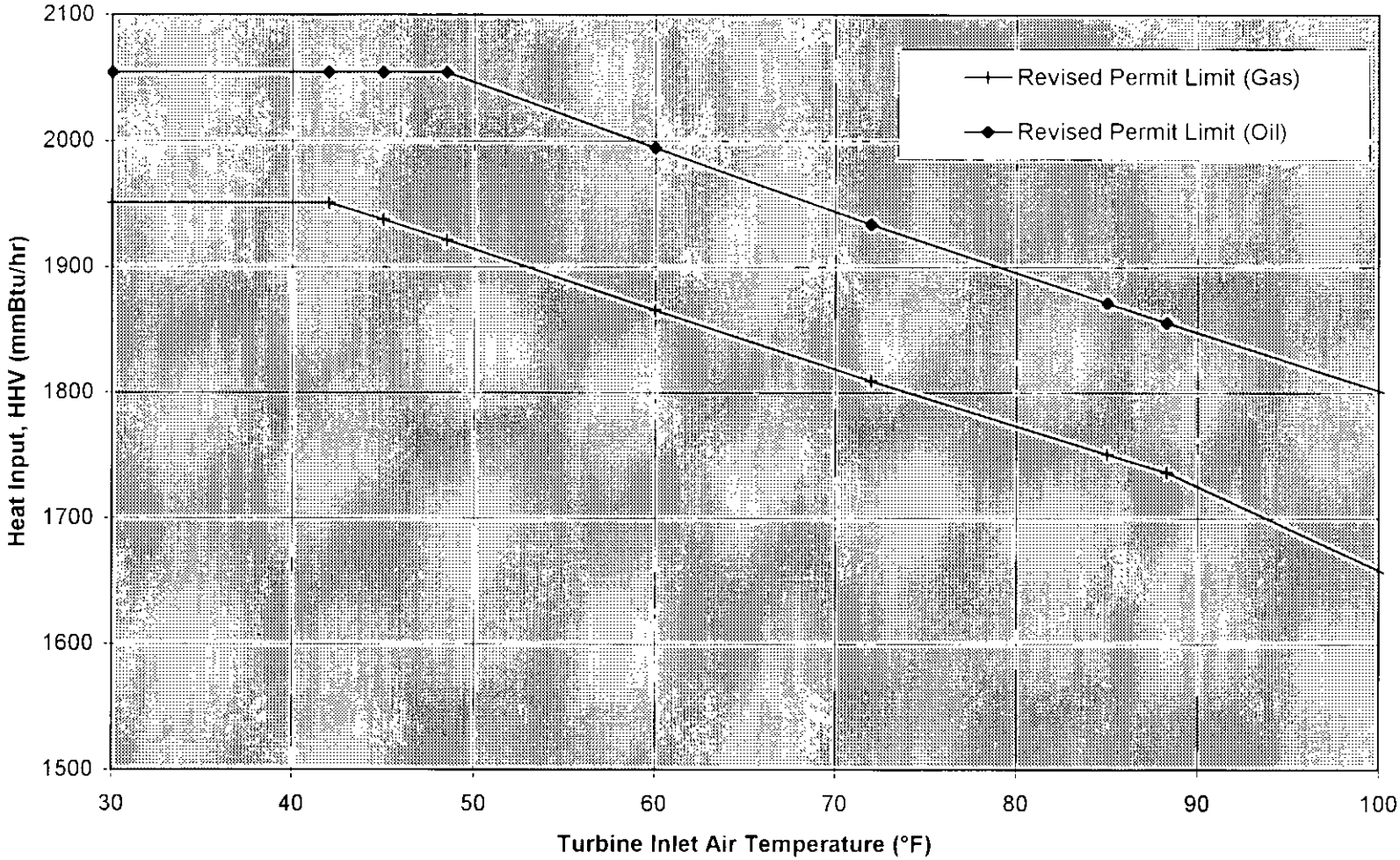
TWB/db

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

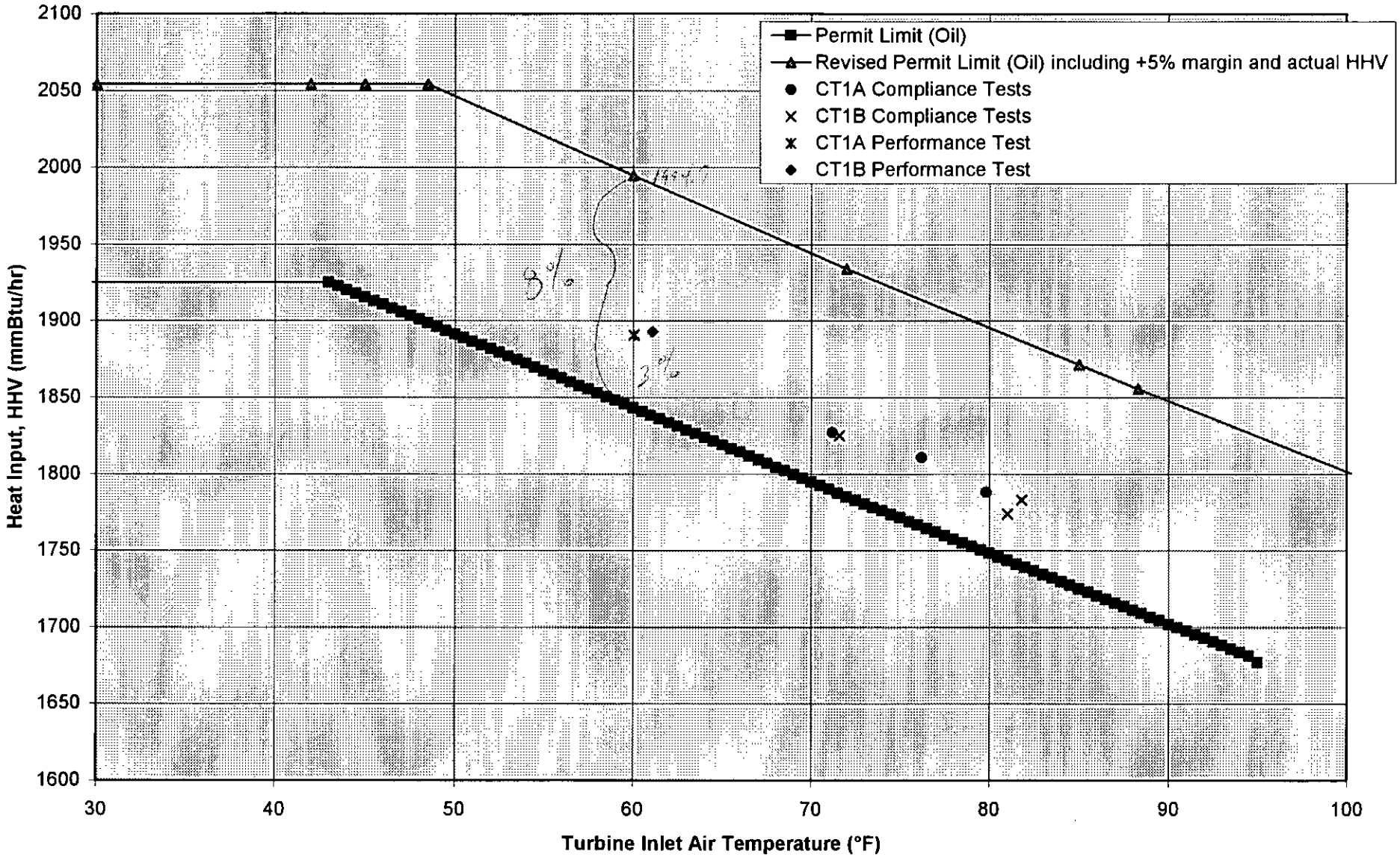
Hines Energy Complex - Power Block 1
CT Heat Input, HHV (per CT) vs. Turbine Inlet Air Temperature



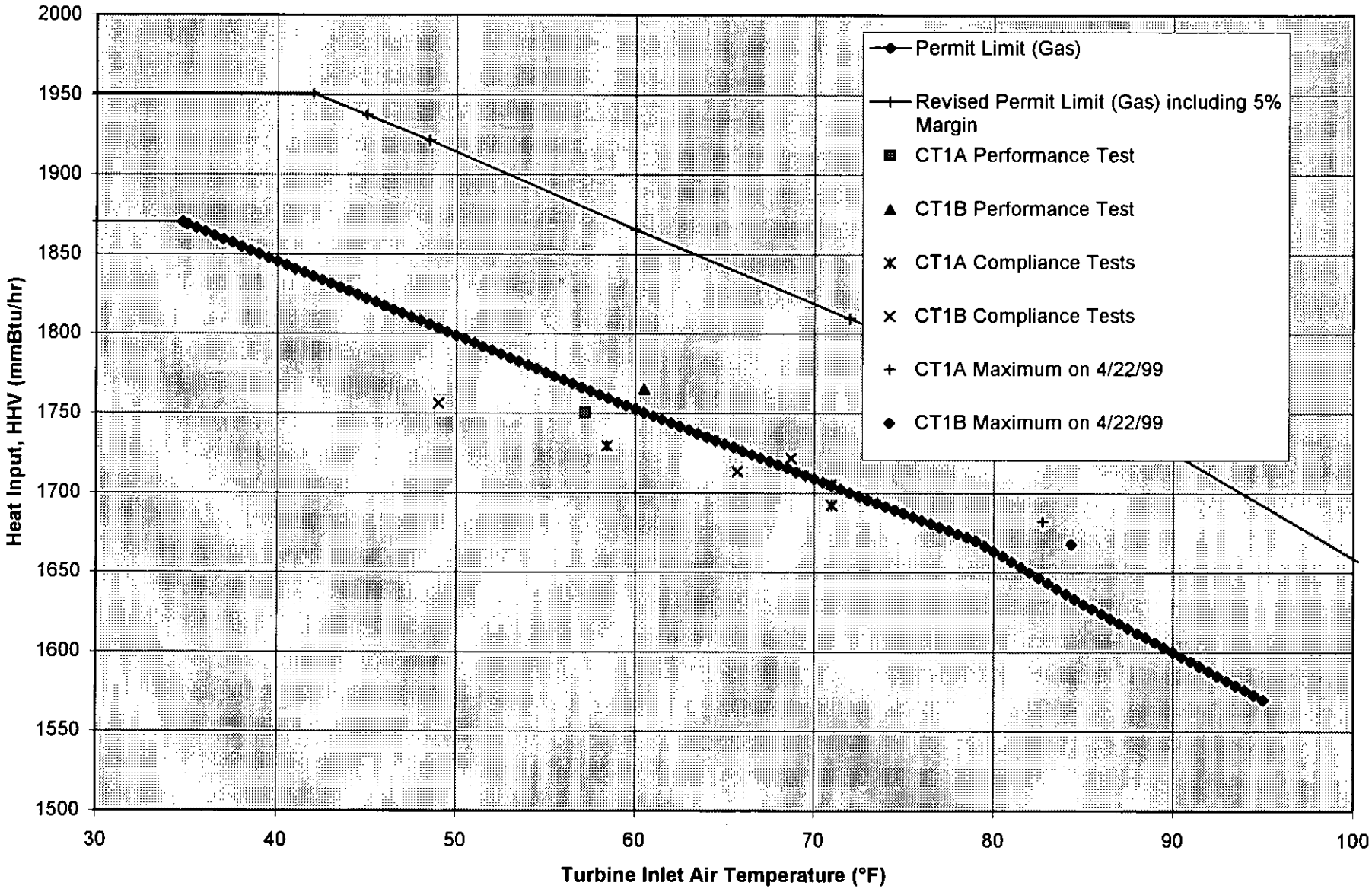
T Ambient (F)	GasHeat Content (Btu/lb)	Gas Fuel Flow (lbm/hr)	GAS Heat Input (MMBtu/hr) HHV	GAS Heat Input 10% Margin	GAS Heat Input 5% Margin
30.0	23210	80050	1857.96	2043.76	1950.86
42.0	23210	80050	1857.96	2043.76	1950.86
45.0	23210	79500	1845.20	2029.71	1937.45
48.5	23210	78845	1829.99	2012.99	1921.49
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



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	From:	George Pyros
		Phone:	407-281-5871
Fax.	941-519-6210	Fax:	407-281-5007
Phone:	941-519-6103	E-Mail:	
Date:	1/19/99	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.

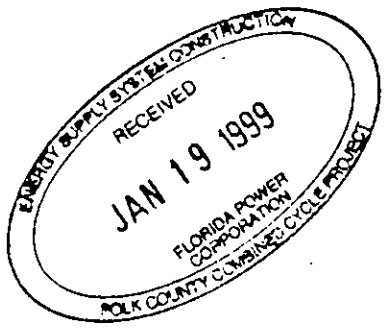
Please note that the x-axis is equivalent operating hours, and that the y-axis pertains to power degradation. As noted, heat rate degradation is 50-80% of power degradation. So, worst case scenario is that after 50,000 EOH, the heat rate degrades by 8*0.8=6.4%.

Sincerely,

George Pyros

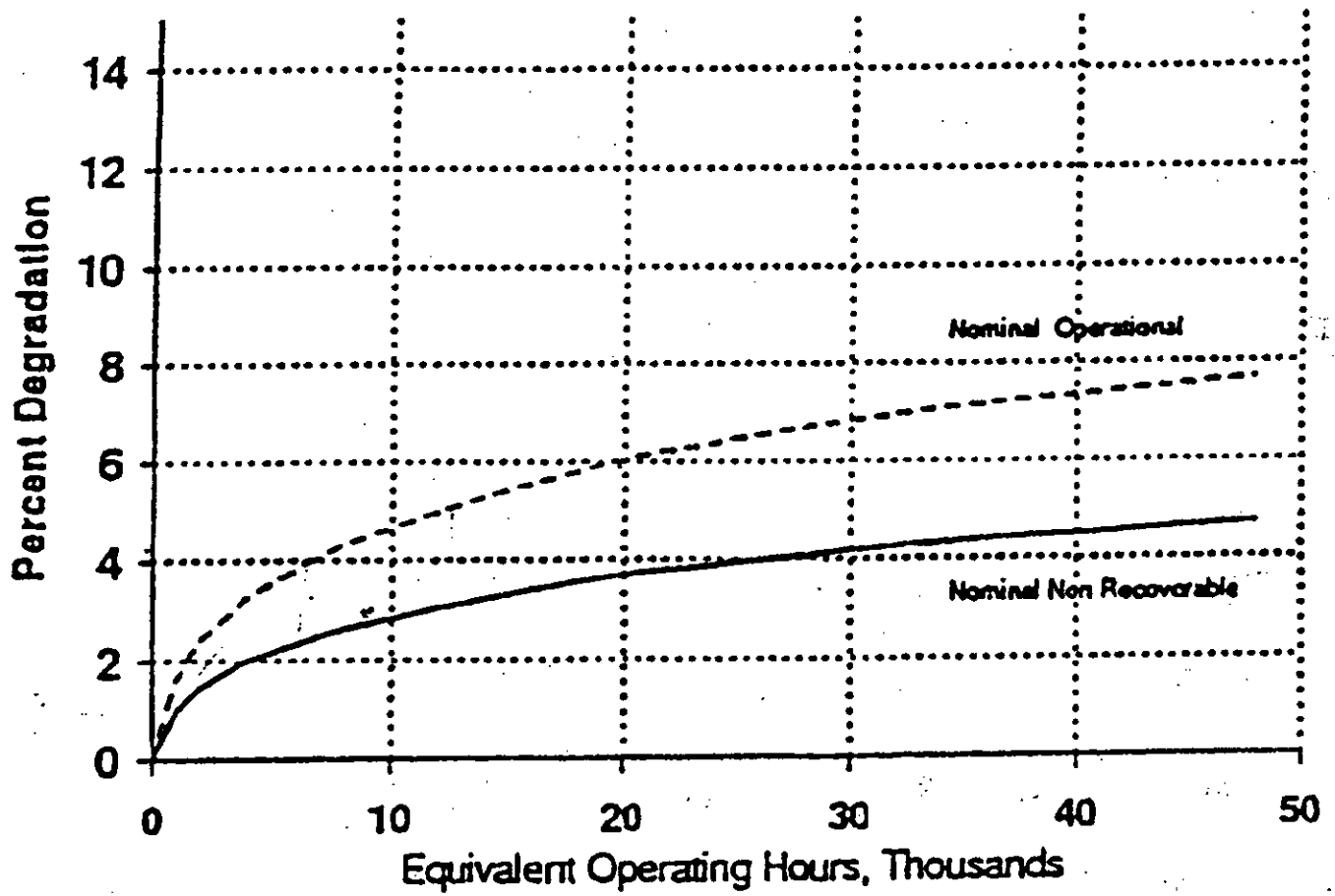
cc:

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



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 6/96

Figure 6071

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:	Florida Power Corporation
2. Site Name:	Hines Energy Complex
3. Facility Identification Number:	1050234 [ ] Unknown
4. Facility Location Information Street Address or Other Locator:	County Rd 555;2.5m S of CR 640
City: Bartow	County: Polk Zip Code: 33830
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):	

Owner/Authorized Representative or Responsible Official

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.*

J. M. Richards, QEP for W.J. Pardue May 3, 1999
Signature Date

* Attach letter of authorization if not currently on file.

Florida
Power
CORPORATION

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,

Kenneth E. Armstrong

Kenneth E. Armstrong

K:\KEA\MISC\pardue.esd

3201 34th Street South (33711) · P.O. Box 14042 (33733) · St. Petersburg, Florida · (813) 866-5153 · FAX (813) 866-4881
A Florida Progress Company

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.

[X] 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:

[X] 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: **Jennifer Tillman**
   Registration Number: 52125

2. Professional Engineer 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. Professional Engineer Telephone Numbers:
   Telephone: **(727) 826-** 4132 Fax: **(727) 826-4216**

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.

Jennifer L. Tillman 5/3/99

Signature Date

(seal)

* Attach any exception to certification statement.

Application Contact

1. Name and Title of Application Contact:
   Scott Osbourn, Senior Environmental

2. Application Contact 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. Application Contact Telephone Numbers:

   Telephone: **(727) 826-4258** Fax: **(727) 826-4216**

Application Comment

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:	4. Facility Status Code:	5. Facility Major Group SIC Code:	6. Facility SIC(s):
0	C	49	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

Facility Regulatory Classifications

1. Small Business Stationary Source?		
[ ] Yes	[x] No	[ ] Unknown
2. Title V Source?		
[x] Yes	[ ] No	
3. Synthetic Non-Title V Source?		
[ ] Yes	[x] No	
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?		
[x] Yes	[ ] No	
5. Synthetic Minor Source of Pollutants Other than HAPs?		
[ ] Yes	[x] No	
6. Major Source of Hazardous Air Pollutants (HAPs)?		
[ ] Yes	[x] No	
7. Synthetic Minor Source of HAPs?		
[ ] Yes	[x] No	
8. One or More Emissions Units Subject to NSPS?		
[x] Yes	[ ] No	
9. One or More Emissions Units Subject to NESHAP?		
[ ] Yes	[x] No	
10. Title V Source by EPA Designation?		
[ ] Yes	[x] No	
11. Facility Regulatory Classifications Comment (limit to 200 characters):		
Applicable NSPS is 40 CFR Part 60; Subpart GG.		

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:

[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): **CT-1; Power Block 1**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: C	4. Acid Rain Unit? [X] Yes [ ] No	5. Emissions Unit Major Group SIC Code: 49
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)

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:
   [x] 1 [ ] 2 [ ] 3 [ ] 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:
   [ ] D [ ] F [ ] H [ ] P
   [ ] R [x] V [ ] 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): **Natural Gas**	
2. Source Classification Code (SCC): **2-01-002-01**	
3. SCC Units: **Million Cubic Feet**	
4. Maximum Hourly Rate: 1.78	5. Maximum Annual Rate: 15,593
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: **1,050**	
10. Segment Comment (limit to 200 characters): **Based on 1,050 BTU/CF (HHV); maximum hourly and annual at 59 degrees F; turbine inlet temperatures.**	

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: EM	2. Pollutant(s): NOx
3. CMS Requirement: [X] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: TECO/Spectrum Model Number: 42C Serial Number: 42C-58559-318	
5. Installation Date: October 1998	
6. Performance Specification Test Date: initial RATA 1/8/99	
7. Continuous Monitor Comment (limit to 200 characters): **NOx CEM required by 40 CFR Part 75. A carbon dioxide monitor included.** 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: EM	2. Pollutant(s): NOx
3. CMS Requirement: [X] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Westinghouse Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters): **Parameter Code: WTF. Required by 40 CFR 60; Subpart GG; S.60.334; oil firing. Request NOx CEM in lieu of WTF monitoring.**	

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): CT-2; Power Block 1		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: C	4. Acid Rain Unit? [X] Yes [ ] No	5. Emissions Unit Major Group SIC Code: 49
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.)

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: [x] 1 [ ] 2 [ ] 3 [ ] 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: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] 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: 6,381
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.	