

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Swachmann, Secretary

John Shearer, Assistant Secretary

August 31, 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. J. S. Crall
Orlando Utilities Commission
Post Office Box 3193
Orlando, Florida 32802

Dear Mr. Crall:

Re: Indian River Plant Gas Turbines CT-A and CT-B
Permit Numbers: AC 05-144482, AC 05-146749, and PSD-FL-130

The Department has reviewed your letter dated August 9, 1989, concerning the higher than expected particulate matter emissions from the above referenced units.

The Department recommends that the units be operated using natural gas so as to operate in compliance with all the emissions limitations. Should you choose to operate the turbines using fuel oil, you will need to operate at a lower firing rate so as not to exceed the permitted emission limits after the 180-day debugging period allowed for NSPS sources (counted from the date of initial start up).

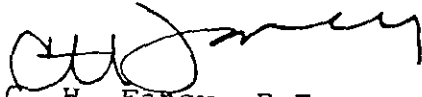
OUC will need to apply for a modification of the permits to have the project reviewed for the higher particulate emissions encountered in the testing.

All compliance tests are required within 60 days after achieving maximum sustained production rate, but not later than 180 days after initial startup. Compliance with all the emission limits will be determined upon receipt of test results. Compliance with the particulate emission limits will be determined at the time the permit modification is completed if the modification application is made within 30 days of performance testing.

Mr. J. S. Crall
Page Two
August 31, 1989

If you have any questions, please call Pradeep Raval at (904)488-1344 or write to me at the above address.

Sincerely,



C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/PR/t

cc: J. Pennington, DARM
C. Collins, C District
W. Aronson, EPA
C. Shaver, NPS
S. Day, Black & Veatch

Reading File

Pradeep Raval

Barry Andrews

Max Lim

} 9-1-89 797

*Certified Mail
Green Card never
came back*

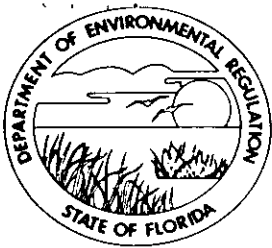
F 938 762 670

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to	Mr. J. S. Crall
Sheet No.	Orlando Utilities Commission
	P.O. Box 3193
	Orlando, Florida 32802
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date	mailed: 9/1/89
	AC 05-144482, -146749
	PSD-FL-130

PS Form 3800, June 1985



Florida Department of Environmental Regulation

Central District • 3319 Maguire Boulevard, Suite 232 • Orlando, Florida 32803-3767 • 407-894-7555

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary
Alex Alexander, Deputy Assistant Secretary

CERTIFIED

P35 4912893

August 21, 1989

Orlando Utilities Commission
500 South Orange Avenue
Post Office Box 3193
Orlando, Florida 32802

OCD-AP-89-0574

Attn: James S. Crall, Director, Environmental Division

Brevard County - AP
Gas Turbine Units #1 & 2
Permit #AC05-144482, AC05-146749

RECEIVED

AUG 24 89

OUC-ENVD

Dear Mr. Crall:

An inspection of your gas turbines on July 25, 1989, during the initial start up/compliance testing indicated the following:

The sampling ports are located at a diverging section of the stack.

This does not satisfy the requirements of Rule 17-2.700 (4)(c)1,c,i Florida Administrative Code and specific condition number 8 of the permit.

You are now required to either relocate the ports to satisfy the above cited rule and notify the Department of the completion date, or request an alternate sampling procedure.

You must respond to these items within 10 days after receipt of this letter. If you have any questions, call Pius Sanabini at 407-894-7555 or write me.

Sincerely,

Garry Kuberski
Garry Kuberski
Air Supervisor
Compliance/Enforcement

ps
GDK/psl

cc: William Herrington



RECEIVED
AUG 14 1989
DER-BAQM

ORLANDO UTILITIES COMMISSION

500 SOUTH ORANGE AVENUE • P. O. BOX 3193 • ORLANDO, FLORIDA 32802 • 407/423-9100

August 9, 1989

Mr. C. H. Fancy, Deputy Chief
Bureau of Air Quality Management
Fla. Dept. of Environmental Regulations
2600 Blainstone Road
Tallahassee, FL 32399-2400

Re: PSD-FL-130

Dear Mr. Fancy:

Preliminary results from initial performance tests of Units 05-144482 (CT-A) and 05-146749 (CT-B) indicate they will not meet the 10 lb/hr emission rate for particulate. Our best information at present is that CT-A averaged between 15-16 lbs/hr and CT-B averaged 22-23 lbs/hr with official results forthcoming. OUC's and GE's best efforts were used to fine tune the water injection to achieve these results.

I have informally discussed this matter with Pradeep Ravel, of your office, on July 28 and on August 3, regarding how to proceed to modify the construction permit. The subject of interim operation was also discussed and it is my understanding that OUC may operate both units complying with all other limitations, without operational constraints, provided OUC requests modification of the permit within 30 days of completion of performance tests. Pradeep also suggested it would be helpful to provide documentation demonstrating that conflicting information was received from GE regarding expected particulate emissions, which I have enclosed with this transmittal.

Please confirm this information is correct and complete.

Sincerely,

James S. Crall
Director
Environmental Division

JSC/cs
Enclosures

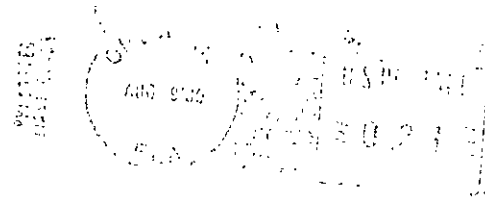
xc: W. H. Herrington w/encls.
F. F. Haddad
S. M. Day (B&V) w/encls.
P. Ravel (DER)

B. Andrews
J. ...
S. ...
...

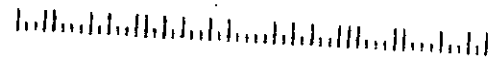


ORLANDO UTILITIES
COMMISSION

P. O. BOX 3193
ORLANDO, FLORIDA 32802



Mr. C. H. Fancy, Deputy Chief
Bureau of Air Quality Management
Florida Department of
Environmental Regulations
2600 Blairstone Road
Tallahassee, FL 32399-2400



BLACK & VEATCH

ENGINEERS-ARCHITECTS

TEL. (913) 339-2000

1500 MEADOW LAKE PARKWAY
MAILING ADDRESS P.O. BOX NO. 8405
KANSAS CITY, MISSOURI 64114

Orlando Utilities Commission
Indian River Combustion Turbine Project

B&V Project 14137
B&V File 62.1001.02
March 6, 1989

Orlando Utilities Commission
7800 South U.S. 1
Titusville, Florida 32780

Attention: Mr. T. D. Slepow

Gentlemen:

Enclosed is the performance information that you requested from General Electric.

Very truly yours,

BLACK & VEATCH



D. D. Schultz

cac
Enclosure

cc: Mr. J. Crall
Mr. J. C. Davisson

DIAL COMM. 8*235-5789

DATE. FEBRUARY 28, 1989

COPIES R.P. Allen
J.E. Hopkins
LB

53-200
53-200

DEPT. TTD

ADDRESS. Building 53, Rm. 200

SUBJECT. Orlando Utilities
DM R04002

T. Schoenholz
53-401

The performance requested by Don Schultz is shown below.

% Load	100	75	50	30
Natural gas				
Load KW	35460	26600	17730	10640
HC Btu/Hr x106	407.8	319.2	239.7	183.6
Nox ppmvd@15% O2	42	42	42	42
UHC ppmvw	7	2	3	3
Part lb/Hr	2.5	2.5	2.5	2.5
Distillate oil				
Load KW	34420	25820	17210	10330
HC Btu/Hr x106	398.9	314.2	236.7	182.6
Nox ppmvd@15% O2	65	65	65	65
UHC ppmvw	7	2	2	2
Part lb/hr	17	17	17	17

Performance at: 24ft, 90F, 60% RH, 4/2.5inch inlet/exhaust loss, with Nox control on.

If you have any further questions please call.



P. E. Garrison, Sr. Engineer
Applications

peg

GENERAL  ELECTRIC

UTILITY & INDUSTRIAL SALES DIVISION
GENERAL ELECTRIC COMPANY • POST OFFICE BOX 10577 • TAMPA, FLORIDA 33679 • (813) 873-4827

May 27, 1987

RECEIVED

Orlando Utilities Commission

MAY 28

INDIAN RIVER PLANT

Mr. Tim Slepov
Project Engineer
Indian River Station
Orlando Utilities Commission
RD #2 - Box 30
Titusville, FL 32780

Dear Tim:

Attached is the information that you requested regarding volume of water required for water injection for the simple cycle MS-6000B gas turbine, 2½ inches back pressure ISO conditions. Additional information is included that you may find useful while talking to your environmental people. If you have any additional questions, please call.

Regards,



W. A. Smoak
Generation Sales Engineer

WAS:sc

Attachment

MS6001B
 Estimated Performance With Diluent Injection
 To Meet EPA NSPS
 (75 ppmvd NOx @ 15% O₂ With Heat Rate Correction)
 2" Hga Back Pressure

	<u>Nat. Gas</u>	<u>Nat. Gas</u>	<u>Dist.</u>	<u>Dist.</u>
Output, kW	38350	38260	37980	38310
Heat Rate, Btu/kWh (LHV)	11020	10740	11210	10720
Heat Consumpt., 10 ⁶ Btu/lb (LHV)	422.6	410.9	425.8	410.7
Exhaust Flow, 10 ³ lb/h (1)	1090	1082.4	1097	1093.5
Exhaust Temp., F (1)	1004	1006	1004	1005
Water Flow, lb/h	8890	---	13360	---
Water/Fuel	0.44	---	0.58	---
Steam Flow, lb/h (3)	---	8500	---	17000
Steam/Fuel, (3)	---	0.44	---	0.76
CO, ppmvd*	10	10	10	10
UHC, ppmvw**	10	10	10	10
Particulates (2), lb/h	<2.5	<2.5	<10	<10
<u>Exhaust Composition (Vol. %)</u>				
Nitrogen	73.9	74.0	74.1	73.8
Oxygen	13.5	13.8	13.4	13.7
Carbon Dioxide	3.2	3.1	4.2	4.0
Water	8.5	8.3	7.4	7.6
Other	0.9	0.8	0.9	0.9

- (1) At gas turbine exhaust plenum flange
- (2) As measured per GE methods
- (3) Low NOx liner

CONDITIONS:

59½F, 60% Relative Humidity
 14.7 psia
 Base Load
 4.0"/2.5" Water Inlet/Exhaust Pressure Drops
 Water Injection Schedule 498HA930
 Steam Injection Schedule 499HA228
 Distillate Fuel - 18550 Btu/lb (LHV)
 Natural Gas Fuel - 21515 Btu/lb (LHV)

- * parts per million volume dry
- ** parts per million volume wet (Unburned Hydro Carbons)



ORLANDO UTILITIES COMMISSION

500 SOUTH ORANGE AVENUE • P. O. BOX 3193 • ORLANDO, FLORIDA 32802 • 407/423-9100

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

June 6, 1989

Mr. C. H. Fancy, P.E., Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulations
2600 Blainstone Road
Tallahassee, FL 32399-2400

Re: **Indian River Plant Combustion
Turbine Facility**

Dear Mr. Fancy:

On May 30, 1989, I gave notification that the first unit (AC-05-144482) would undergo performance testing on June 13, 1989. Please be advised that the date has been changed to June 20, 1989.

By copy of this correspondence, I am also providing notice to EPA Region IV and the DER Central Florida District Office.

If you have any questions regarding this transmittal, please contact me at (407) 423-9141.

Sincerely,

J. S. Crall
Director
Environmental Division

JSC/cs

xc: Winston A. Smith
Director, Air Division
EPA Region IV
345 Courtland Street
Atlanta, GA 30365

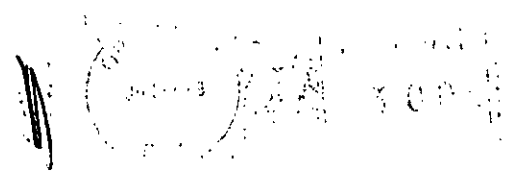
Alex Alexander
Deputy Assistant Secretary
FDER/CFD
3319 Maguire Blvd.d, Suite 232
Orlando, FL 32803

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JUN 12 1989
DER-BAQM



ORLANDO UTILITIES
COMMISSION

P O BOX 3193
ORLANDO, FLORIDA 32802



Mr. C. H. Fancy, P.E., Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulations
2600 Blairstone Road
Tallahassee, FL 32399-2400

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

CERTIFIED

P-094 205 410

MAIL





ORLANDO UTILITIES COMMISSION

500 SOUTH ORANGE AVENUE • P. O. BOX 3193 • ORLANDO, FLORIDA 32802 407/23-0100

RECEIVED

APR 6 1989

DER-BAQM

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

April 3, 1989

Mr. C. H. Fancy, P. E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of
Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

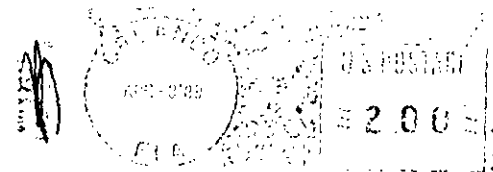
Re: Indian River Plant Combustion
Turbine Facility

Dear Mr. Fancy:

In accordance with specific condition 10 of PSD-FL-130 and Florida Administration Code Rule 17-2, the Orlando Utilities Commission is hereby providing notice of initial startup of the first two units of the subject phased project. Startup for the first unit (AC-05-144482) is planned for May 9, 1989, and is to be followed by startup of the second unit (AC-05-146749) on or about May 30, 1989.

Please be advised that these dates represent the best information available at this time. Notification of the actual date of initial startup for each unit will be provided by this office within fifteen (15) days thereof.

By copy of this correspondence, I am also providing notice to EPA Region IV and the DER Central Florida District Office.



Mr. C. H. Fancy, P. E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of
Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-

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

CERTIFIED

P-094 206 455

MAIL



Mr. C. H. Fancy, P. E.

-2-

April 3, 1989

If you have any questions regarding this transmittal, please contact me at 407/423-9141.

Sincerely,

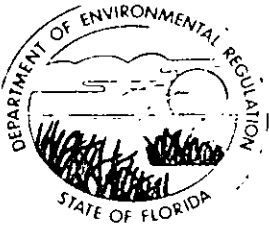


J. S. Crall
Director
Environmental Division

JSC/cs

xc: Winston A. Smith
Director, Air Division
EPA Region IV
345 Courtland Street
Atlanta, GA 30365

Alex Alexander
Deputy Assistant Secretary
FDER/CFD
3319 Maguire Blvd., Suite 232
Orlando, FL 32803



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachmann, Secretary

John Shearer, Assistant Secretary

March 8, 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. J. S. Crall
Orlando Utilities Commission
Post Office Box 3193
Orlando, Florida 32802

Dear Mr. Crall:

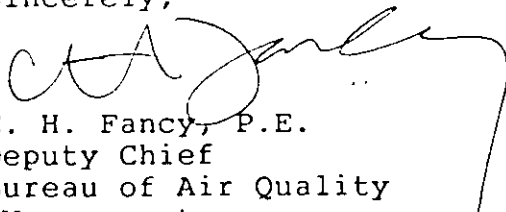
Re: Indian River Plant Combustion Turbines
Nos. AC 05-144482, -146749, -146750, and -146751

The Department has received and reviewed your letter dated February 23, 1989, requesting approval, for compliance testing, of an oil analysis for Beryllium instead of the EPA Method 104 mentioned in Specific Condition 8 of the above referenced permits.

The Department will accept the use of either Method 7090 or 7091, and sample extraction by using Method 3040, as described in the EPA solid waste regulations, SW846.

If you have any questions, please call Pradeep Raval at (904)488-1344 or write to me at the above address.

Sincerely,


C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/PR/s

cc: C. Collins, CF District
W. Aronson, EPA
M. Flores, NPS
S. Day, Black & Veatch

SENDER: Complete Items 1 and 2 when additional services are desired and complete Items 3 and 4. Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date and addressee's address. (Extra charge)
 2. Restricted Delivery (Extra charge)

3. Article Addressed to:
 Mr. J. S. Crall
 Orlando Utilities Commission
 P. O. Box 3193
 Orlando, FL 32802

4. Article Number
 P 274 007 602

Type of Service:
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Address
 X *Dunno Hugh*

6. Signature — Agent
 X

7. Date of Delivery

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

PS Form 3811 Mar 1988 U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

P 274 007 602

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(See Reverse)

* U.S.G.P.O. 1985-480-794

PS Form 3800, June 1985

Sent to Mr. J. S. Crall, OUC	
Street and No. P.O. Box 3193	
P.O., State and ZIP Code Orlando, FL 32802	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date Mailed: 3-8-89 Permit: AC 05-144482, 146749 -146750, -146751	

PM
2-24-89
Orlando, FL

file copy



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FEB 27 1989

ORLANDO UTILITIES COMMISSION

500 SOUTH ORANGE AVENUE • P. O. BOX 3193 • ORLANDO, FLORIDA 32802 • 407/423-9100

February 23, 1989

Mr. Pradeep Raval
Bureau of Air Quality Management

2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Indian River Plant Combustion Turbines
Nos. 05-144482-146749, -146750 and -146751

Dear Mr. Raval:

Per conversation with Black & Veatch and Pete Burnette of Air Consulting and Engineering, I have been advised that method 104 as specified in our subject permits may not be feasible for testing combustion turbines for Beryllium. I understand that both Black & Veatch and Pete Burnette discussed the problem with you, and you advised that OUC could request an initial oil analysis for Beryllium to satisfy SP 8.f.

Please regard this correspondence as OUC's request for permission to substitute a single oil analysis in lieu of Method 104 as specified in our subject permits. We propose to use either Method 7090 or 7091, following extraction by Method 3040 as described in the Solid Waste Testing regulations, SW 846.

Thank you for your attention to this matter and please call me at 407/423-9141 if you need further information or clarification.

Sincerely,

James S. Crall
Director
Environmental Division

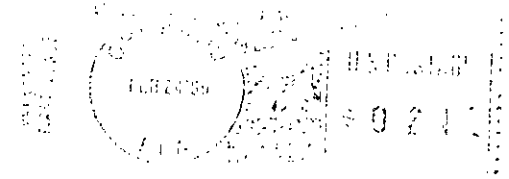
JSC/cs

xc: S.M. Day, B&V
copied - B. Anderson, S. P. A., A. S. Jones, C. F. Duct, JHF/ST



ORLANDO UTILITIES
COMMISSION

P. O. BOX 3193
ORLANDO, FLORIDA 32802



Mr. Pradeep Raval
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400



Certified P 491 547 832
11-8-88 Orlando, FL

file copy



ORLANDO UTILITIES COMMISSION

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CERTIFIED RETURN RECEIPT REQUESTED

November 4, 1988

RECEIVED
NOV 10 1988
DER-BAQM

Mr. C.H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of
Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Mr. Fancy:

Pursuant to and in accordance with 40 CFR Part 60, Chapter 17-2 FAC and PSD-FL-130, the Orlando Utilities Commission is hereby providing notification of commence construction for two of four simple cycle combustion turbines (AC 05-144482 and AC 05-146749) on October 25, 1989 at OUC's Indian River Plant located approximately 10 km south of Titusville.

By copy of this correspondence, I am also providing notice to the DER Central District Office.

If you have any questions regarding this transmittal, please contact me at 407/423-9141.

Sincerely,

J.S. Crall
Director
Environmental Division

JSC:sp

xc: Alex Alexander, DER

*copied: Madhus Kaval
A. Anderson, EPA
CHF/BT*



ORLANDO UTILITIES
COMMISSION

P. O. BOX 3193
ORLANDO, FLORIDA 32802

CERTIFIED RETURN RECEIPT REQUESTED

Mr. C.H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of
Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 323



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P 971 587 832

MAIL



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30363

OCT 11 1988

4APT/APB-aes

Mr. C. H. Fancy, Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Orlando Utilities Commission (PSD-FL-130)

Dear Mr. Fancy:

We have reviewed the final determination and final permit for the proposed construction of four simple cycle combustion turbines at the Indian River Plant. We concur with Florida's evaluation of this project.

Sincerely yours,

A handwritten signature in cursive script that reads "Bruce P. Miller".

Bruce P. Miller, Chief
Air Programs Branch
Air, Pesticides, and Toxics
Management Division

cc: Orlando Utilities Commission
500 South Orange Avenue
P.O. Box 3193
Orlando, Florida 32802

RECEIVED

OCT 14 1988

DER-BAQM