



March 31, 2003

RECEIVED

APR 01 2003

BUREAU OF AIR REGULATION

Al Linero, P.E.
Division of Air Resources Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399

**RE: Fort Myers Plant – Air Construction Permit 0710002-009-AC
To Install Two Simple-Cycle Units**

Dear Al:

FPL is in the process of commissioning two simple-cycle combustion turbine (CT) units, Units 3A & 3B, at the Ft. Myers plant. The units are General Electric frame 7FA machines, which are in widespread use within FPL and the electric industry in general. Each unit is permitted to have dual fuel capability, burning either natural gas or low sulfur distillate fuel. Each unit also has a direct-fired natural gas heater that raises the CT's natural gas fuel temperature to a level which assures optimum combustion for the dry, Low NOx combustors.

The CTs, when fired with natural gas, produce very low particulate matter (PM) emissions which has been demonstrated in the past on like FPL units, such as Martin Units 8A and 8B [Refer: Attachment No. 1]. In order to collect sufficient particulate matter to measure, the duration of the test runs of the EPA Test Method must be extended threefold, resulting in additional emissions of NOx, CO and other constituents. In addition, the cost of fuel for the extended test runs creates an unnecessary financial burden to the ratepayers, only to demonstrate the well-known low levels of PM emissions.

FPL is asking the Department to accept the natural gas testing results of the first CT (3B) to be representative of both units for PM emissions. FPL intends to test unit 3B for PM as well as the other required initial tests. In addition, FPL is asking the Department to accept the test results of one of the two identical direct-fired natural gas heaters to be representative of both heaters. In a previous commissioning scenario, the Department agreed to accept the test results from two of six direct-fired heaters as representative emissions during the Ft. Myers combined cycle unit commissioning [Refer: Attachment No. 2].

Al Linero
Department of Environmental Protection
March 28, 2002
Page 2

FPL believes the testing regimen outlined above will provide the Department with sufficient assurance that the combustion of natural gas in the CTs results in low PM emissions, and that the emissions from the direct-fired gas heaters are very low as well.

A telephone discussion with Mr. Jeff Koerner and Ms. Teresa Heron on March 27, 2003 indicated that the testing/ reporting process outlined above could be acceptable to the Department.

Thank you for consideration of this request. We look forward to the Department's concurrence. If you have any questions or would like to discuss this matter further, please contact me at (561) 691- 2877 or Barbara Linkiewicz at (561) 691-7518.

Sincerely,



Kevin Washington
Senior Environmental Specialist – FPL

cc: Mr. Earl Baker, Southwest District Office, FDEP

Attachments: (2)

ATTACHMENT No. 1

FLORIDA POWER & LIGHT COMPANY, P.O. BOX 14000, JUNO BEACH, FL 33408-0420



August 28, 2001

Mr. Tom Tittle
Environmental Manager
State of Florida
Department of Environmental Protection
400 North Congress Avenue
PO Box 15425
West Palm Beach, Florida 33416

RE: Emissions Test Report
Florida Power & Light Company
Martin Power Plant, Combustion Turbine No. 8A and 8B

Dear Mr. Tittle:

Per our telephone conversation on August 27, please find enclosed the test reports for the initial compliance testing performed on the Martin combustion turbines. Also enclosed are the 3 one hour VE's for each turbine.

If you have any questions, or need any additional information, you may contact me at the Cutler Emission Office at (305) 242-3896.

Sincerely,

Agustin J. de la Vega
Test Group Supervisor
Florida Power & Light Company

cc: File



GE Energy and Environmental Research Corporation

Table 4-5. Emission Summary Table for FP&L, Indiantown, FL - Unit 8A
Approximately 100% Base Load Conditions on Natural Gas

Test Identification					
Test Period	--	1	2	3	Average
Test Condition	load level, %	100	100	100	
Sampling Location	--	stack	stack	stack	
Date	--	07-May-01	07-May-01	07-May-01	
Test Time (start-stop)	--	1725-1825	1910-2010	2050-2150	
Ambient Conditions					
Barometric Pressure	In. Hg	30.05	30.00	30.05	30.03
Ambient Temperature	°F	82	81	73	79
Wet Bulb Temperature	°F	67	71	69	69
Absolute Humidity	lb water/lb dry air	0.01063	0.01403	0.01433	0.01300
Turbine Operating Conditions					
Mean Turbine Exhaust Temp., TTXM	°F	1123.9	1119.6	1118.9	1120.8
Fuel Flow, FQG	lb/sec	21.323	21.631	21.721	21.558
Compressor Inlet Temperature, CTIM	°F	78.7	73.2	71.7	74.5
Specific Humidity, CMHUM	lb/lb	0.01313	0.01165	0.01157	0.01212
Inlet Guide Vane Angle, CSGV	degrees	88.0	88.0	88.0	88.0
Generator Output, DWATT	mw	166.9	170.1	171.1	169.4
Compressor Discharge Pressure, CPD	psig	210.7	213.3	213.9	212.6
Exhaust Gas Conditions					
Volumetric Flow, M-19, F ₁	dscfm	739,850	747,400	745,360	744,200
Volumetric Flow, M-19, F ₂	dscfm	729,386	729,410	732,440	730,412
Moisture	%V	8.0	7.1	6.2	7.1
O ₂	%	13.7	13.7	13.6	13.7
CO ₂	%	4.2	4.2	4.2	4.2
F ₂ Factor	--	1.731	1.714	1.726	1.724
NO _x	ppmvd	9.5	9.7	9.5	9.6
Exhaust Emissions					
Particulate Matter	lb/hr	3.37	2.65	2.12	2.71
CO	ppmvd	0.2	0.3	0.2	0.2
	lb/hr	0.6	0.9	0.6	0.7
VOC	ppmvw	< 0.1	< 0.1	< 0.1	< 0.1
	lb/hr	< 0.004	< 0.004	< 0.004	< 0.004
NO _x	ppmvd @ 15% O ₂	7.7	7.9	7.7	7.8
	lb/hr	50.1	52.0	50.7	50.9



GE Energy and Environmental Research Corporation

Table 4-9. Emission Summary Table for FP&L, Indiantown, FL - Unit 8B
Approximately 100% Base Load Conditions on Natural Gas

Test Identification					
Test Period	--	1	2	3	Average
Test Condition	load level, %	100	100	100	
Sampling Location	--	stack	stack	stack	
Date	--	23-May-01	23-May-01	23-May-01	
Test Time (start-stop)	--	1415-1515	1818-1918	1954-2054	
Ambient Conditions					
Barometric Pressure	In. Hg	29.59	29.49	29.50	29.50
Ambient Temperature	°F	84	81	78	81
Wet Bulb Temperature	°F	79	77	75	77
Absolute Humidity	lb water/lb dry air	0.02027	0.01913	0.01803	0.01914
Turbine Operating Conditions					
Mean Turbine Exhaust Temp., TTXM	°F	1128.0	1127.7	1126.0	1127.2
Fuel Flow, FQG	lb/sec	20.51	20.51	20.66	20.56
Compressor Inlet Temperature, CTIM	°F	80.3	79.9	77.6	79.3
Specific Humidity, CMHUM	lb/lb	0.03485	0.03117	0.02614	0.03072
Inlet Guide Vane Angle, CSGV	degrees	88.0	88.0	88.0	88.0
Generator Output, DWATT	mw	162.2	162.6	163.9	162.9
Compressor Discharge Pressure, CPD	psig	206.4	206.5	207.6	206.8
Exhaust Gas Conditions					
Volumetric Flow, M-19, F _d	dscfm	702,224	712,239	717,384	710,616
Volumetric Flow, M-19, F _c	dscfm	701,582	701,840	690,471	697,965
Moisture	%V	10.1	9.7	8.6	9.5
O ₂	%	13.6	13.7	13.7	13.7
CO ₂	%	4.2	4.2	4.3	4.2
F _o Factor	--	1.738	1.714	1.674	1.709
NO _x	ppmvd	9.7	9.7	9.8	9.7
Exhaust Emissions					
Particulate Matter	lb/hr	1.73	1.78	2.07	1.86
CO	ppmvd	0.2	0.2	0.2	0.2
	lb/hr	0.7	0.5	0.7	0.6
VOC	ppmvw	< 0.1	< 0.1	< 0.1	< 0.1
	lb/hr	< 0.003	< 0.003	< 0.003	< 0.003
NO _x	ppmvd @ 15% O ₂	7.8	8.0	8.0	7.9
	lb/hr	48.9	49.6	50.2	49.6



GE Energy and Environmental Research Corporation

Table 4-5A. Emission Summary Table for FP&L, Indiantown, FL - Unit 8A
Approximately 100% Base Load Conditions on Distillate Oil - PARTICULATE

Test Identification					
Test Period	--	1	2	3	Average
Test Condition	load level, %	100	100	100	
Sampling Location	--	stack	stack	stack	
Date	--	05-Jun-01	05-Jun-01	06-Jun-01	
Test Time (start-stop)	--	1040-1345	1430-2031	1000-1310	
Turbine Operating Conditions					
Turbine Exhaust Temperature, TTXM	°F	1121.9	1117.5	1120.2	1119.8
Fuel Flow, FQLMI	lb/sec	25.47	25.76	25.54	25.59
Compressor Inlet Temperature, CTIM	°F	85.7	80.9	81.9	82.8
Specific Humidity, CMHUM	lb/lb	0.01796	0.01785	0.01963	0.01848
Inlet Guide Vane Angle, CSGV	degrees	88.0	88.0	88.0	88.0
Generator Output, DWATT	MW	171.8	175.4	173.9	173.9
Compressor Discharge Pressure, CPD	psig	212.7	215.2	213.8	213.9
Water Injection Flow, WQ	lb/sec	31.4	31.8	31.0	31.4
Ratio, Act. NOx Water to Fuel, WXJ	--	1.23	1.23	1.21	1.22
Ratio, Req. NOx Water to Fuel, WXC	--	1.21	1.20	1.18	1.20
Exhaust Gas Conditions (a)					
Volumetric Flow, M-19, F _a	dscfm	692,590	698,910	694,400	695,300
Volumetric Flow, M-19, F _b	dscfm	684,890	691,680	718,934	698,501
Moisture	%V	10.2	12.3	8.6	10.4
O ₂	%	12.6	12.6	12.9	12.6
CO ₂	%	6.2	6.3	6.0	6.3
Exhaust Emissions					
Particulate Matter	lb/hr	(a)	2.59	2.46	2.52

(a) highest calculated exhaust gas volumetric flow rate used for emission rate calculation.

(b) Not included in reported average. See Section 4.2.



GE Energy and Environmental Research Corporation

Table 4-9. Emission Summary Table for FP&L, Indiantown, FL - Unit 8B
Approximately 100% Base Load Conditions on Distillate Oil

Test Identification		1	2	3	Average
Test Period	--	1	2	3	Average
Test Condition	load level, %	100	100	100	
Sampling Location	--	stack	stack	stack	
Date	--	12-Jun-01	12-Jun-01	12-Jun-01	
Test Time (start-stop)	--	1825-1925	1956-2056	2135-2235	
Ambient Conditions					
Barometric Pressure	In. Hg	29.94	29.80	29.89	29.88
Ambient Temperature	°F	95	84	79	86.0
Wet Bulb Temperature	°F	80	75	71	74.7
Absolute Humidity	lb water/lb dry air	0.01873	0.01494	0.01449	0.01605
Turbine Operating Conditions					
Turbine Exhaust Temperature, TTXM	°F	1121.4	1119.8	1117.6	1119.6
Fuel Flow, FQLM1	lb/sec	25.01	25.38	25.52	25.30
Compressor Inlet Temperature, CTIM	°F	84.5	83.0	79.3	82.3
Specific Humidity, CMHUM	lb/lb	0.01625	0.01436	0.01500	0.01520
Inlet Guide Vane Angle, CSGV	degrees	88.0	88.0	88.0	88.0
Generator Output, DWATT	MW	171.3	172.2	174.4	172.6
Compressor Discharge Pressure, CPD	psig	211.4	212.3	213.9	212.5
Water Injection Flow, WQ	lb/sec	28.0	28.8	28.7	28.5
Ratio, Act. NOx Water to Fuel, WXJ	--	1.11	1.14	1.12	1.12
Ratio, Req. NOx Water to Fuel, WXC	--	1.09	1.11	1.10	1.10
Exhaust Gas Conditions					
Volumetric Flow, M-19, F _g	dscfm	684,520	694,510	699,190	692,740
Volumetric Flow, M-19, F _c	dscfm	675,430	686,390	687,960	683,260
Moisture	%V	11.4	9.3	9.9	10.2
O ₂	%	12.7	12.7	12.7	12.7
CO ₂	%	6.2	6.2	6.2	6.2
F _g Factor	--	1.3	1.329	1.323	1.326
NO _x	ppmvd	53.9	52.9	53.9	53.5
Exhaust Emissions					
Sulfur Dioxide	% by Vol. dry @15%O ₂	0.00074	0.0074	0.0074	0.0074
Particulate Matter	lb/hr	3.1	2.8	3.2	3.0
VOC	ppmvw	0.5	0.6	0.5	0.5
	lb/hr	0.02	0.02	0.02	0.02
CO	ppmvd	0.8	0.8	0.8	0.8
	lb/hr	2.4	2.5	2.6	2.5
NO _x	ppmvd @ 15% O ₂	38.5	37.8	38.6	38.3
	lb/hr	264.1	263.1	269.9	267.5

ATTACHMENT No. 2



FLORIDA POWER & LIGHT COMPANY, P.O. BOX 14000, JUNO BEACH, FL 33408-0420

December 14, 2000

Mr. Ron Blackburn
State of Florida
Department of Environmental Protection
South Florida District Office
2295 Victoria Avenue, Suite 364
Fort Myers, Florida 33901

RE: Florida Power & Light Company
Initial Visible Emission Evaluation,
Nox, and CO Emission Test Report for
Fort Myers Plant, Combustion Turbine
2B Heater

Dear Mr. Blackburn:

Enclosed please find the initial results of the Nox and CO emissions compliance tests conducted at the referenced unit by Florida Power & Light's Technical Services Emission Test Group on November 28, 2000. The referenced unit was fired with 100 percent natural gas. During testing, EPA Methods 3A, 10 and 20 were used for sampling and analysis.

A summary of the pertinent data is attached. Also enclosed is a 1 hour VE performed on November 28, 2000.

If you have any questions, please call Augie de la Vega at the Cutler Emissions Office (305) 242-3896.

Sincerely,

for William M. Reichel
Plant General Manager
Florida Power & Light Company

cc: Emission Test Group
File

**FORT MYERS CT HEATER 2B
EMISSION SUMMARY**

100% GAS

DATE	RUN #	CT	CO ppm	CO EMISSIONS lbs/MMBTU	NOx ppm	NOx EMISSIONS lbs/MMBTU	O2 %
11/28/00	1	2B	8.97	0.008	29.41	0.041	5.22
11/28/00	2	2B	7.75	0.006	29.94	0.041	5.10
11/28/00	3	2B	7.65	0.006	30.66	0.042	5.05
AVG			8.12	0.007	30.00	0.041	5.12

NOx Emission Standard for Gas 0.100 lb/MMbtu.

CO Emission Standard for Gas 0.150 lb/MMbtu.



FLORIDA POWER & LIGHT COMPANY, P.O. BOX 14000, JUNO BEACH, FL 33408-0420

December 15, 2000

Mr. Ron Blackburn
State of Florida
Department of Environmental Protection
South Florida District Office
2295 Victoria Avenue, Suite 364
Fort Myers, Florida 33901

**RE: Florida Power & Light Company
Initial Visible Emission Evaluation,
Nox, and CO Emission Test Report for
Fort Myers Plant, Combustion Turbine
2A Heater**

Dear Mr. Blackburn:

Enclosed please find the initial results of the Nox and CO emissions compliance tests conducted at the referenced unit by Florida Power & Light's Technical Services Emission Test Group on November 8, 2000. The referenced unit was fired with 100 percent natural gas. During testing, EPA Methods 3A, 10 and 20 were used for sampling and analysis.

A summary of the pertinent data is attached. Also enclosed is a 1 hour VE performed on December 14, 2000.

If you have any questions, please call Augie de la Vega at the Cutler Emissions Office (305) 242-3896.

Sincerely,

A handwritten signature in cursive script, appearing to read "William M. Reichel".

for William M. Reichel
Plant General Manager
Florida Power & Light Company

cc: Emission Test Group
File

**FORT MYERS CT HEATER 2A
EMISSION SUMMARY**

100% GAS

DATE	RUN #	CT	CO ppm	CO EMISSIONS lbs/MMBTU	NOx ppm	NOx EMISSIONS lbs/MMBTU	O2 %
11/08/00	1	2A	8.44	0.006	40.78	0.050	3.23
11/08/00	2	2A	8.97	0.007	40.66	0.050	3.21
11/08/00	3	2A	8.71	0.006	41.21	0.050	3.12
		AVG	8.71	0.006	40.88	0.050	3.19

NOx Emission Standard for Gas 0.100 lb/MMbtu.

CO Emission Standard for Gas 0.150 lb/MMbtu.

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- 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. William Reichel
 General Manager
 FPL Fort Myers Plant
 Post Office Box 430
 Fort Myers, FL 33908
 2

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 Addressee
Mary K. Russell

B. Received by (Printed Name) C. Date of Delivery
 MARY K. RUSSELL 1/18/03

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

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

4. Restricted Delivery? (Extra Fee) Yes

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PS Form 3811, August 2001

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 Ft. Myers, FL 33905

PS Form 3800, January 2001

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