

DEP ROUTING AND TRANSMITTAL SLIP

TO: (NAME, OFFICE, LOCATION) 3. _____
1. BAR/DARM - MS# 55056
MARTY Costello
2. _____ 5. _____

PLEASE PREPARE REPLY FOR:
 SECRETARY'S SIGNATURE
 DIV/DIST DIR SIGNATURE
 MY SIGNATURE
 YOUR SIGNATURE
 DUE DATE _____

ACTION/DISPOSITION
 DISCUSS WITH ME
 COMMENTS/ADVISE
 REVIEW AND RETURN
 SET UP MEETING
 FOR YOUR INFORMATION
 HANDLE APPROPRIATELY
 INITIAL AND FORWARD
 SHARE WITH STAFF
 FOR YOUR FILES

COMMENTS:

see 1481 correspondence

RECEIVED
JAN 29 1997
BUREAU OF
AIR REGULATION

per Johnny Cole

FROM: NED-JAX Dereen - AIR JB DATE: 1/27/97 SS ext 233
PHONE: 880-4310



January 27, 1997

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JAN 28 1997

**BUREAU OF
AIR REGULATION**

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

Dear Mr. Linero:

Re: Request to Burn Natural Gas in FPC Combustion Turbines
DeBary DEP Permit No. AO49-203114
Suwannee DEP Permit No. AO61-189579

Florida Power Corporation (FPC) has the opportunity to use, on an interruptible basis, natural gas as a supplemental fuel in peaking units at DeBary (P7-P10) and Suwannee (P1-P3). Accordingly, on November 7, 1996, FPC submitted an application for an air construction permit to install natural gas-firing capability at the DeBary site. (An application for the Suwannee site followed on December 16, 1996.) Additional information was requested by Department letter (dated December 2, 1996) regarding: whether FPC had intended to fire gas in these units when they were originally constructed, what modifications were necessary to burn gas, fuel costs, the description of any restrictions or limitations in our natural gas contract, the feasibility and economics of installing dry low NO_x combustors in these units, and an emissions comparison of the before and after case to determine PSD applicability. FPC responded to these issues in a letter to the Department dated January 6, 1997. In follow-up conversations with the Department, FPC was requested to supply additional information regarding the PSD applicability issue. Although the Department has only formally requested this additional information for DeBary, the issue is the same for the proposed Suwannee conversion. Therefore, this letter serves to transmit the additional information it is believed that the Department requires for both the DeBary and Suwannee plant sites.

The salient issue in the permitting of the DeBary and Suwannee peaker conversions to natural gas is the Department's position regarding PSD applicability. Such a determination is based on comparing past emissions to emissions after the proposed modification. The Department may use several different approaches to conduct this determination: past actual-to-future actual, past actual-to-future potential, or past potential-to-future potential.

A comparison of past actual-to-future potential emissions will nearly always result in a determination of PSD applicability, as the past actual operating history of a unit rarely comes close to the allowable operating limit. This is particularly true for peaking units, whose operating capacities are dependent on the operability of other base load units within the FPC generating mix. FPC believes that it is inappropriate to use a past actual-to-future potential emissions test for these peaker conversions as, by definition, the nature of a peaker's operation is highly variable.

To demonstrate this point, FPC's System Planning Department has conducted several computer runs of the estimated operating hours of all the peaking units within our system for four scenarios. These scenarios are based on the fact that FPC's Crystal River nuclear facility will be inoperable until the fourth quarter of 1997. These scenarios are meant to illustrate how dependent each peaker's operating schedule is on other factors within FPC's system, rather than just what happens at a particular peaker site, such as a natural gas conversion. The four scenarios are: 1) assuming the nuclear unit remains in operation for 1997 (baseline), and the proposed gas conversions do not take place; 2) assuming the nuclear unit remains in operation for 1997 and the proposed gas conversions occur; 3) assuming the nuclear unit will not be in operation until October 1, 1997 and the gas conversions do not occur; and 4) assuming the nuclear unit will not be in operation until October 1, 1997 and the proposed gas conversions occur.

The attached Table 1 was constructed from the System Planning data discussed above, as well as Annual Operating Reports for the years 1993 through 1996. Table 1 provides a view of annual operating hours for a five year period (including estimated hours for 1997, under four different scenarios), for the peakers at Suwannee (P1-P3), DeBary (P7-P10), and the peakers converted to natural gas at Intercession City (P7-P10). It's interesting to note that the nuclear unit being down has the effect of almost doubling FPC's systemwide peaker operating hours (i.e., Cases S1 and S2 of approximately 21,000 hours vs. cases S3 and S4 of approximately 37,000 hours). Cases S3 and S4 show that, with the nuclear unit down and the proposed gas conversion, the systemwide peaker hours actually decrease slightly. It's interesting to note that if the nuclear unit had not gone down and the proposed gas conversions were to take place (Case S2), *in no instance would any of these peakers of interest have operated more than they are projected to operate this year on oil with the nuclear unit down* (Case S3). All background data used in compiling this table is included in an appendix to this letter.

EPA's discussion of current law in the WEPCo rule preamble makes clear that, by limiting the revised rule regarding the so-called "demand growth exclusion" to electric utility steam generating units, the Agency did not intend to foreclose application of the similar exclusion that is currently available to all other sources. In the preamble, EPA expressly recognizes that the NSR regulatory provisions require that the physical or operational change *result in* an increase in actual emissions in order to consider that change to be a modification." According to EPA the new provision does not diminish the scope of coverage of the NSR regulations." 57 Fed. Reg. at 32,327. In other words, EPA expressly recognizes that, under current law applicable to all sources, the "result in" language of the NSR regulations demands that emissions attributable to factors independent of a physical or operational change (e.g., demand growth, other external factors, etc.) be excluded from calculating an emission increase following that physical or operational change. EPA continues, where projected increased operations are in response to an independent factor such as demand growth, which could have occurred and

affected the unit's operations during the representative baseline period even in the absence of the physical or operational change," such increased operations cannot be said to result from the change and therefore may be excluded from the projection of the unit's future actual emissions." Id. (emphasis added). Again, as stated above, a comparison of Cases S2 and S3 illustrate that the increase in operating hours of the subject peakers would have occurred even in the absence of the proposed modifications.

Under the State of Florida's definition of actual emissions (62-210.200(12)(b)), the Department may presume that unit-specific allowable emissions for an emission unit are equivalent to the actual emissions (i.e., past actuals may be considered to be equivalent to allowable emissions) provided that, for any regulated air pollutant, such unit-specific allowable emission limits are federally enforceable. It is important to note that comparing potential-to-potential emissions for the switch from No. 2 fuel oil to natural gas results in significant decreases of all criteria pollutants, except for the case of CO and VOC emissions at Suwannee, where slight increases are predicted. The potential comparisons in the following tables are based on maximum allowable operation at each site (i.e., 1,500 hr/yr at Suwannee and 3,390 hr/yr at DeBary).

DeBary Conversion- Emissions Comparison

Pollutant	No. 2 Fuel Oil		Natural Gas	
	lb/hr	tons/yr	lb/hr	tons/yr
NO _x	182	1,234	107	726
PM/PM ₁₀	17	116	7.5	51
CO	54	365	21	144
VOCs	5	34	3	20
SO ₂	555	1,925	3	20
SAM	69	469	0.4	3

Suwannee Conversion- Emissions Comparison

Pollutant	No. 2 Fuel Oil		Natural Gas	
	lb/hr	tons/yr	lb/hr	tons/yr
NO _x	210	473	144	323
PM/PM ₁₀	38	86	31	70
CO	179	402	193	435
VOCs	23	51	25	56
SO ₂	379	853	2	5
SAM	12	26	0.4	1

Mr. Linero
January 27, 1997
Page 4

FPC hopes that the information given satisfactorily addresses your questions. FPC wishes to use the limited amount of natural gas which has become available to it. The already-installed water injection control technology will limit NO_x emissions, reducing emissions when compared to those from burning fuel oil, and resulting in a benefit to the environment.

Please feel free to contact me at (813) 866-5158 if you should have any questions.

Sincerely,



Scott H. Osbourn
Senior Environmental Engineer

Attachments

cc: Martin Costello, DEP DARM
Chris Kirts, DEP NE District
Len Kozlov, DEP Central District
Ken Kosky, KBN/Golder

TABLE 1. FPC PEAKER OPERATING HISTORY AND PROJECTIONS

UNIT	OPERATING HOURS							
	1993	1994	1995	1996	S1	S2	S3	S4
Suwannee								
P1	329	92	98	196	355	440	979	1223
P2	308	100	94	215	155	236	565	952
P3	174	61	86	192	245	285	763	1070
DeBary								
P7	17	499	438	663	523	1053	1157	1653
P8	679	492	371	711	467	999	1125	1612
P9	573	426	439	753	392	914	1016	1488
P10	728	382	379	630	288	854	870	1426
Int. City								
P7	193	873	649	1125	1299	1025	2139	1851
P8	222	724	562	1269	1193	909	1992	1698
P9	68	697	715	1177	1090	801	1854	1557
P10	155	579	512	1186	992	697	1732	1411
Total Systemwide Peaker Hours					21,427	21,013	37,316	36,731

- S1 -- nuclear unit operating, no gas conversions
- S2 -- nuclear unit operating, with gas conversions
- S3 -- nuclear unit down until 10/1/97, no gas conversions
- S4 -- nuclear unit down until 10/1/97, with gas conversions

1210003-002-AC



RECEIVED

JAN 21 1997

**BUREAU OF
AIR REGULATION**

January 20, 1997

Mr. Clair Fancy
Florida Department of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

Re: Air Construction Permit Application for Combustion Turbine Natural Gas Conversion
at FPC's Suwannee Plant (DEP Permit No. AO61-189579)

On December 16, 1996, Florida Power Corporation (FPC) submitted an application for an air construction permit to install natural gas-firing capability for combustion turbines at the above-referenced site. FPC had enclosed four copies of the application, as well as a check in the amount of \$250.00 for the processing of this application.

On December 20, 1996, FPC received a letter from the Department indicating that the project would require a PSD review and, therefore, an additional \$7,250 was necessary to begin processing the application.

This letter serves to transmit additional information to the Department indicating that PSD does not apply. Specifically, manufacturer's data was used to optimize the proposed water-to-fuel ratio for natural gas firing, resulting in less than significant emission increases for all PSD pollutants. It should also be noted that, at the maximum operating capacity of the units (1,500 hr/yr), the gas conversion project would result in a NO_x emission reduction of 150 tons per year.

If you should have any questions or require additional information, please do not hesitate to contact me at (813) 866-5158.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott H. Osbourn", written over a horizontal line.

Scott H. Osbourn
Senior Environmental Engineer

Enclosure

4. Professional Engineer's 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.

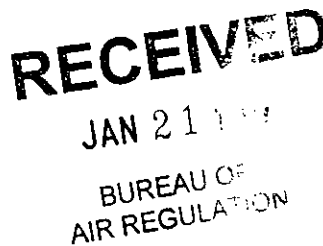
If the purpose of this application is to obtain a Title V source air operation permit (check here [] if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this 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 [] 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 (seal) Date 1/17/97

* Attach any exception to certification statement.



**ATTACHMENT SU-AI-AC
APPLICATION COMMENT**

This application is for the Suwannee Facility. The application's structure is as follows:

Emission Unit 1 - Gas Turbines	
General	3 peaking units
Emission Points	1 stack per turbine
Segments	No. 2 fuel oil On-spec used oil Natural Gas
Pollutants	SO ₂
VE Emissions	VE limits applicable
CEM	None
PSD	Existing Baseline Sources

1.0 INTRODUCTION

Florida Power Corporation (FPC) currently owns a simple cycle electric generation facility located in Suwannee, Florida. The facility consists of three 63-megawatt (MW) distillate oil-fired turbine generator units. This facility is considered to be an existing major source because potential emissions of several pollutants including nitrogen oxides (NO_x) and carbon monoxide (CO) are in excess of 100 tons per year (TPY). FPC requests the flexibility to operate the existing units while firing natural gas. No increase in operating hours per year is requested.

FPC is submitting the attached Application For Air Permit - Long Form [Florida Department of Environmental Protection (FDEP) Form No. 62-210.900(1)] for the requested facility modification. Resulting net emission increases for all pollutants are less than PSD significant levels, therefore, the modification is considered "minor".

FPC proposes to operate its water injection system at a 0.40 water-to-fuel ratio on natural gas vs. the currently permitted ratios for No. 2 fuel oil of no less than 0.526 for P1, 0.486 for P2, and 0.505 for P3. These minimum water-to-fuel ratios, set during initial compliance testing, were necessary to meet NO_x NSPS standards. The proposed minimum ratio of 0.4 will not only achieve the NSPS standards, but also results in significant NO_x reductions, while maintaining emissions increases of CO and VOC below PSD significant levels. Turbine manufacturer's design information suggest that operating with natural gas causes a decrease in NO_x emissions of approximately 4.56 lb/hr for every 1 lb/hr increase in CO emissions. Therefore, the operation of the unit on natural gas is expected to reduce NO_x emissions at a greater rate than CO emissions are increased, thereby reducing overall NO_x impacts. On an annual basis, CO emissions are increased from 401.7 TPY (total for all three units) to 434.7 TPY (proposed), or a 33.0 TPY increase. A 4.56 lb/hr NO_x decrease for every 1 lb/hr CO increase could potentially decrease NO_x emissions by 150.0 TPY when operating on natural gas for the entire year.

Further, sulfur dioxide (SO₂) emissions will also be reduced at a rate of approximately 25.8 lb/hr for every 1 lb/hr increase in CO emissions. Therefore, the operation of the unit on natural gas is expected to reduce SO₂ emissions at a much greater rate than CO emissions are increased.

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: NOX		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	210.22 lb/hour	157.66 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
[] 1	[] 2	[] 3 _____ to _____ tons/yr
6. Emission Factor: 94.8 ppmvd		
Reference: AC61-11862, 63, & 64		
7. Emissions Method Code:		
<input checked="" type="checkbox"/> 0	[] 1	[] 2 [] 3 [] 4 [] 5
8. Calculation of Emissions (limit to 600 characters):		
<p>The potential emissions are based on No. 2 fuel oil. The NOx emissions from natural gas are as follows: NOx (lb/hr)= 143.6, NOx (ton/yr)= 107.7. Potential hourly emissions from natural gas are based on vendor data @ 59°F and a 0.40 water/fuel ratio. Potential annual emissions for both No. 2 fuel oil and natural gas are based on 1,500 hr/yr. (See Attachment SU-E01-H8)</p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
Emission limit established is BACT; each gas turbine limited to 1,500 hr/yr operation.		

Emissions Unit Information Section 1 of 1
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: See comment		
4. Equivalent Allowable Emissions:	210.22 lb/hour	157.66 tons/year
5. Method of Compliance (limit to 60 characters): Water to fuel ratio		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Emiss. limit established as BACT (see AC61-11862, -11863, -11864) Requested Allow. Emiss.:94.8 ppmvd at 15%O2, 0.015% or less FBN.Actual and potential emissions while firing natural gas will be lower.		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: CO		
2. Total Percent Efficiency of Control:		0 %
3. Potential Emissions:	178.6 lb/hour	133.9 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
[] 1 [] 2 [] 3 _____ to _____ tons/yr		
6. Emission Factor:		
Reference: Manufacturer data		
7. Emissions Method Code:		
[x] 0 [] 1 [] 2 [] 3 [] 4 [] 5		
8. Calculation of Emissions (limit to 600 characters):		
<p>The potential emissions are based on No. 2 fuel oil. CO emissions on gas can be reduced below those on oil; however, the reduction in wet injection required to achieve this will increase NOx emissions above the level proposed in this application. The CO emissions from natural gas are as follows: CO (lb/hr)= 193.2, CO (ton/yr)= 144.9. Potential hourly emissions for natural gas are based on manufacturer's data at 59°F and a water/fuel ratio of 0.40. Potential annual emissions for all fuels are based on 1,500 hr/yr. (See Attachment SU-E01-H8)</p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
<p>Max. hrly emissions based on heat input of 739 MMBtu/hr @ 59°F and HV of 138,000 Btu/gal for No. 2 fuel oil and 1,000 Btu/cf for natural gas. Potential emissions calculated for single CT.</p>		

Emissions Unit Information Section 1 of 1
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: VOC		
2. Total Percent Efficiency of Control:		0 %
3. Potential Emissions:	22.6 lb/hour	16.9 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
[] 1	[] 2	[] 3 _____ to _____ tons/yr
6. Emission Factor:		
Reference: Manufacturer data		
7. Emissions Method Code:		
<input checked="" type="checkbox"/> 0	[] 1	[] 2 [] 3 [] 4 [] 5
8. Calculation of Emissions (limit to 600 characters):		
<p>The potential emissions are based on No. 2 fuel oil. VOC emissions on gas can be reduced below those on oil; however, the reduction in wet injection required to achieve this will increase NOx emissions above the level proposed in this application. The VOC emissions from natural gas are as follows: VOC (lb/hr)= 24.8, VOC (ton/yr)= 18.6. Potential hourly emissions from both No. 2 fuel oil and natural gas are based on manufacturer's data at 59°F and a water/fuel ratio of 0.40. Potential annual emissions for all fuels are based on 1,500 hr/yr. (See Attachment SU-E01-H8)</p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
<p>Max. hrly emissions based on heat input of 739 MMBtu/hr @ 59°F and HV of 138,000 Btu/gal for No. 2 fuel oil and 1,000 Btu/cf for natural gas. Potential emissions calculated for single CT.</p>		

Emissions Unit Information Section 1 of 1
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

Table SU:EU1-H8b. Potential Emissions for Suwanee, Simple Cycle FT4C-3F, Peak Load @ 59 F
Natural Gas and Oil

Pollutant *	Operating Parameters 59 F			Total
	Unit P1	Unit P2	Unit P3	
NOx = based on manufacturer				
Oil Basis, ppmvd @ 15% O2	94.8	94.8	94.8	
lb/hr	210.2	210.2	210.2	630.6
TPY	157.7	157.7	157.7	473.1
Natural Gas				
Basis, ppmvd @ 15% O2	68.0	68.0	68.0	
lb/hr	143.6	143.6	143.6	430.8
TPY	107.7	107.7	107.7	323.1
CO = Based on manufacturer				
Oil				
lb/hr	178.6	178.6	178.6	535.8
TPY	133.9	133.9	133.9	401.7
Natural Gas				
lb/hr	193.2	193.2	193.2	579.6
TPY	144.9	144.9	144.9	434.7
PM/PM10				
Oil = Based on manufacturer				
lb/hr	38.0	38.0	38.0	114.0
TPY	28.5	28.5	28.5	85.5
Natural Gas - AP-42 (uncontrolled)				
Basis (lb/MMBtu)	0.0419	0.0419	0.0419	
lb/hr	31.0	31.0	31.0	93.0
TPY	23.2	23.2	23.2	69.6
SO2				
Oil (lb/hr) = Fuel Oil (lb/hr) x S content (fraction) x (lb SO2/lb S)				
lb/hr	379.0	379.0	379.0	1,137.0
TPY	284.3	284.3	284.3	852.9
Natural Gas (lb/hr) = Natural gas (cf/hr) x S content (gr/100cf) x 1 lb/7000 gr x lb SO2/lb S + 100				
lb/hr	2.1	2.1	2.1	6.3
TPY	1.6	1.6	1.6	4.8

Table SU-EU1-H8b. Potential Emissions for Suwanee, Simple Cycle FT4C-3F, Peak Load @ 59 F
Natural Gas and Oil

Pollutant *	Operating Parameters 59 F			Total
	Unit P1	Unit P2	Unit P3	
VOC = Based on manufacturer				
Oil				
lb/hr	22.6	22.6	22.6	67.8
TPY	16.9	16.9	16.9	50.7
Natural Gas				
lb/hr	24.8	24.8	24.8	74.4
TPY	18.6	18.6	18.6	55.8
Sulfuric Acid Mist				
Oil (lb/hr) = From CT Exhaust [Fuel consumption (lb/hr) x S content (fraction) x (Conversion (fraction) of S to H2SO4) x lb H2SO4/lb S]				
Fuel consumption (lb/hr)	37,551.0	37,551.0	37,551.0	
Sulfur Content (%)	0.5	0.5	0.5	
lb H2SO4/lb S (98/32)	3.1	3.1	3.1	
CT Exhaust % S Conversion to H2SO4	2.0	2.0	2.0	
lb/hr	11.5	11.5	11.5	34.5
TPY	8.6	8.6	8.6	25.9
Natural Gas (lb/hr) = Fuel consumption (lb/hr) x sulfur content (%) x [Conversion (fraction) of S to H2SO4] x lb H2S				
Fuel consumption (lb/hr)	39,946.0	39,946.0	39,946.0	
Sulfur Content (gr/100 cf)	1.0	1.0	1.0	
Sulfur Content (%)	0.0	0.0	0.0	
lb H2SO4/lb S (98/32)	3.1	3.1	3.1	
CT Exhaust % S Conversion to H2SO4	10.0	10.0	10.0	
lb/hr	0.36	0.36	0.36	1.08
TPY	0.27	0.27	0.27	0.81

* Emission estimates on No. 2 fuel oil are based on a minimum water-to-fuel (W/F) ratio of approximately 0.50.
Emissions estimates on natural gas are based on a minimum W/F ratio of 0.40.

ATTACHMENT SU-E01-L3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

The NO_x control for each combustion turbine is monitored on a continuous basis using the water-to-fuel ratio established for each unit. If during any 1-hour period on No. 2 fuel oil the water-to-fuel ratio is less than 0.526 for Unit 1, 0.486 for Unit 2, or 0.505 for Unit 3, it must be reported as an excess emission and indicated on the quarterly excess emissions report [40 CFR 60.334(c)(1)]. For those reasons stated under Attachment SU-AI-AC (Application Comment), a minimum water-to-fuel ratio of 0.40 will be maintained during natural gas combustion.

Date: 12/20/96 8:43:41 AM
From: Alvaro Linero TAL
Subject: FPC Suwannee
To: Martin Costello TAL
To: Kim Tober TAL
To: Bob Leetch JAX
CC: Christopher Kirts JAX

We received a PSD application from FPC for its Suwannee River Peaker plant. FPC will use natural gas on an interruptible basis while fuel oil No.2 will continue to be the main fuel. The main pollutant is CO which turns this into a PSD source. Marty - you might look into the cost being discussed here for catalyst control for CO versus what Reedy Creek says it costs.

Bob - Chris was sent a copy of the application. Please send any comments to Marty. He will let you know if he visits the plant.

Kim. Log in and place on docket with AIRS file number. Ask Marty how to designate it on docket and start clock.



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

December 20, 1996

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Scott H. Osbourn
Senior Environmental Engineer
Florida Power Corporation
P. O. Box 14042
St. Petersburg, FL 33733

Dear Mr. Osbourn:

RE: Florida Power Corporation
FPC Suwannee Plant
Combustion Turbine Natural Gas Conversion

The Bureau of Air Regulation received your December 16, 1996 request for the above referenced project, along with a \$250 processing fee. Since this project will require a PSD review, we will need an additional \$7,250 to begin processing the application. If you have any questions, please call Marty Costello at (904)488-1344.

Sincerely,

A. A. Linero, P.E.
Administrator
New Source Review Section

AAL/kt

cc: Marty Costello

P 265 659 112

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

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Scott Osbourn	
Street & Number	
Fla. Power Corp.	
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	12-20-96
FPC	

PS Form 3800, April 1995

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- 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.
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- Addressee's Address
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Consult postmaster for fee.

3. Article Addressed to:

Scott Osbourn
Fla. Power Corp
P O Box 14042
St. Pete, FL
33733

4a. Article Number

P 265 659 112

4b. Service Type

- Registered Certified
 Express Mail Insured
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7. Date of Delivery DEC 23 1996

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

6. Signature: (Addressee or Agent)

X *[Signature]*

PS Form 3811, December 1994

Domestic Return Receipt

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