Florida Gas Transmission Company

P. O. Box 945100 Maitland, Florida 32794-5100 (407) 875-5800

May 9, 1996

A. A. Linero, P.E.
Administrator
New Source Review Section
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Sir or Madam:

Enclosed please find our check in the amount of $250.00 for processing fees for our amendment request for permits AC09-229441, AC62-229319, and AC29-228821.

If you have any questions or need additional information, please call me at (407)-875-5816.

Sincerely,

Allan Weatherford
Division Environmental Specialist

REMITTANCE STATEMENT

VOUCHER NO.	INVOICE DATE	INVOICE NO.	PURCHASE ORDER	AMOUNT		
				GROSS	DISCOUNT	NET
INV050696	5-6-96	INV050696		250.00		
					TOTAL	250.00

SPECIAL INSTRUCTIONS:
Permit AC29-228821/AC09-229441/AC62-229319 amendment application fee

DETACH AND RETAIN THIS STUB FOR YOUR RECORDS.

ENRON CORP

P. O. Box 1188
Houston, TX 77251-1188

62-20
311

CHECK NO. 0622510560

CHECK DATE 5-9-96

PAY EXACTLY Two hundred and fifty and no/100---------- DOLLARS

THIS CHECK IS VOID UNLESS PRINTED ON BLUE BACKGROUND

$ 250.00

NOT VALID AFTER 90 DAYS

PAY TO THE ORDER OF
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

CITIBANK DELAWARE

NOT VALID OVER $5000.00 UNLESS COUNTERSIGNED

FIELD DISBURSEMENT ACCOUNT

⑈0622510560⑈ ⑆031100209⑆ 3911049 3⑈

0570438-002 AC - Final
0170035-001 AC
1030031-002 AC

File

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

May 6, 1996

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Allan Wetherford,
Division Environmental Specialist
Florida Gas Transmission
Post Office Box 945100
Maitland, Florida 32794-5100

Dear Mr. Wetherford:

The Bureau of Air Regulation received your, request to amend permit AC29-228821, Station 30: AC09-229441, Station 26; AC62-229319, Station 15. According to Rule 62-4.050(4) (q) 4., before we can begin processing your request, we will need a $250 processing fee. If you have any questions, please call Kanani Winans at (904)488-1344.

Sincerely,

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

AAL/kw

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

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mr. Allan Wetherford
Division Environmental Specialist
Florida Gas Transmission
Post Office Box 945100
Maitland, Florida 32794-5100

4a. Article Number
Z 127 633 206

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

7. Date of Delivery
MAY 09 1996

5. Signature (Addressee)

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

6. Signature (Agent)

PS Form 3811, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

Z 127 633 206

Receipt for Certified Mail

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

Sent to Allan Wetherford	
Street and No. FGT	
P.O. State and ZIP Code PO Box 945100 Maitland 32794	
Postage	$ 5.00
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date AC62-22931 5-6-96 AC29-22821 AC29-22944	

PS Form 3800, March 1993

1230034-002-AC

Florida Gas Transmission Company

P. O. Box 945100 Maitland, Florida 32794-5100 (407) 875-5800

NORTHEAST DISTRICT

RECEIVED

APR 17 1996

CERTIFIED

RECEIVED

DEP - JACKSONVILLE

April 12, 1996

Ms. Rita Felton
Florida Department of Environmental Protection
Northeast District
7825 Baymeadows Way, Suite B-200
Jacksonville, FL 32256-7577

Dear Ms. Felton:

Re: Florida Gas Transmission Company - Station 15
Turbine Compressor 1507, Air Permit No. AC62-229319

Florida Gas Transmission Company (FGT) requests approval for a custom monitoring schedule for sampling and analyzing nitrogen and sulfur in the natural gas fuel for each of the referenced turbine units.

Pursuant to Specific Condition 13, FGT requests approval of a custom monitoring schedule for sampling and analyzing nitrogen and sulfur in its fuel gas. The permitted gas turbine burns only highly regulated pipeline quality natural gas that contains negligible amounts of nitrogen and sulfur. The initial compliance tests (attached) show the nitrogen and sulfur concentrations in the gas to be much less than the respective permit limits. The nitrogen and sulfur content of the fuel gas, supplied through FGT's pipeline, has historically been and will remain relatively constant at levels far below those of regulatory interest.

If you have any questions or would like to arrange a meeting to discuss these changes, please call me at (407) 875-5816.

Sincerely,

Allan Weatherford
Division Environmental Specialist

c Glenn Sellars
Roy Smith
Norman Tedder

TABLE 2
Summary of Results
Unit No. 1507

Florida Gas Transmission Company
Compressor Station No. 15
6 miles N of Perry on C-361 in Taylor County, FL
Solar Mars Model 90S
Technicians: CDC, LJB, DLD

Test Number	15C-4	15C-5	15C-6		FDEP Permit Limits
Date	8/29/95	8/29/95	8/29/95		
Start Time	8:50	9:13	10:37		
Stop Time	9:00	10:21	11:50		
Turbine/Compressor Operation				*Averages*	
Power Turbine Speed (NPT, %)	94.6	94.2	93.3	*94.0*	
Gas Producer Speed (NGP, %)	100.9	100.8	100.5	*100.7*	
Estimated Horsepower (Solar Compressor Shaft, bhp)	11301	11326	11254	*11294*	11261*
Engine Compressor Discharge Pressure (PCD, psig)	180.6	179.4	176.3	*178.8*	
Combustor Air Inlet Temperature (T-1, °F)	84.0	85.9	88.5	*86.1*	
Power Turbine Exhaust Temperature (T-5, °F)	1290	1290	1291	*1290*	
Gas Compressor Suction Pressure (psig)	765.3	768.9	779.5	*771.2*	
Gas Compressor Suction Temperature (°F)	72.9	72.3	72.0	*72.4*	
Gas Compressor Discharge Pressure (psig)	1059.0	1065.8	1071.4	*1065.4*	
Gas Compressor Discharge Temperature (°F)	128.1	128.3	127.7	*128.0*	
Compressor Flow (MMSCFD)	580.3	574.0	572.2	*575.5*	
Turbine Fuel Data (Residue Gas)					
Fuel Heating Value (Btu/SCF, HHV)	1034	1034	1034	*1034*	
Fuel Specific Gravity	0.5840	0.5840	0.5840	*0.5840*	
O2 "F-factor" (DSCFex/MMBtu @ 0% excess air)	8674	8674	8674	*8674*	
CO2 "F-factor" (DSCFex/MMBtu @ 0% excess air)	1024	1024	1024	*1024*	
Total Sulfur in Fuel (grains Sulfur/100 SCF fuel)	0.059	0.059	0.059	*0.059*	10
Fuel Flow (MMSCFH)	0.0921	0.0915	0.0920	*0.0919*	0.1265
Heat Input (MMBtu/hr)	95.29	94.67	95.16	*95.04*	131.59
Ambient Conditions					
Atmospheric Presuure ("Hg)	29.82	29.84	29.86	*29.84*	
Temperature (°F): Dry bulb	79	80	82	*80*	
(°F): Wet bulb	74	76	72	*74*	
Humidity (lbs moisture/lb of air)	0.0166	0.0180	0.0138	*0.0161*	
Measured Emissions					
NOx (ppmv, dry basis)	23.9	24.0	23.4	*23.8*	
NOx (ppmv @ 15% O2)	**27.5**	**27.7**	**27.2**	*27.5*	**42.0**
NOx (ppmv @ 15% O2, ISO Day)	31.2	32.0	28.8	*30.7*	81.2†
CO (ppmv, dry basis)	0.9	1.1	1.3	*1.1*	
O2 (% volume, dry basis)	15.78	15.79	15.82	*15.80*	
CO2 (% volume, dry basis)	2.92	2.97	2.96	*2.95*	
Visible Emissions (% opacity)	0	0	0	*0*	10
Fo (fuel factor, range = 1.600-1.834 for NG)	1.75	1.72	1.72	*1.73*	
Stack Volumetric Flow Rates					
via Pitot Tube Traverse (SCFH, dry basis)	4.17E+06	4.02E+06	3.80E+06	*4.00E+06*	
via O2 "F-factor" (SCFH, dry basis)	3.37E+06	3.36E+06	3.40E+06	*3.38E+06*	
via CO2 "F-factor" (SCFH, dry basis)	3.34E+06	3.26E+06	3.29E+06	*3.30E+06*	
Calculated Emission Rates (via pitot tube)					
NOx (lbs/hr)	11.9	11.5	10.6	*11.3*	16.14
CO (lbs/hr)	0.27	0.32	0.36	*0.32*	11.71
SO2 (lbs/hr, Based on fuel flow and fuel sulfur)	0.016	0.015	0.016	*0.015*	3.61
NOx (tons/yr)	52.2	50.5	46.5	*49.7*	70.70
CO (tons/yr)	1.2	1.4	1.6	*1.4*	51.30
SO2 (tons/yr, Based on fuel flow and fuel sulfur)	0.068	0.068	0.068	*0.068*	15.83
NOx (g/bhp-hr)	0.48	0.46	0.43	*0.46*	0.58
CO (g/bhp-hr)	0.011	0.013	0.014	*0.013*	0.42

* 100% of permitted output at ambient temperature of 80°F

† EPA NSPS Performance Standard

Gas Fuel F Factor & Heating Value Calculation

Client	Florida Gas Transmission Company
Sample ID	pipeline natural gas (residue gas), St. 15
Time	16:02
Date	8/28/95

CALCULATION OF DENSITY AND HEATING VALUE @ 60°F and 30 in Hg

Component	% Volume	Molecular Wt.	Density (lb/ft3)	% volume x Density	weight %	Component Gross Btu/lb	Weight Fract. Btu	Gross Heating Value (Btu/SCF)	Volume Fract. Btu
Hydrogen		2.016	0.0053	0.00000	0.0000	61100	0.00	325.0	0
Oxygen		32.000	0.0846	0.00000	0.0000	0	0.00	0.0	0
Nitrogen	0.3630	28.016	0.0744	0.00027	0.6045	0	0.00	0.0	0
CO2	0.7530	44.010	0.1170	0.00088	1.9719	0	0.00	0.0	0
CO		28.010	0.0740	0.00000	0.0000	4347	0.00	322.0	0
Methane	95.8760	16.041	0.0424	0.04065	90.9870	23879	21726.77	1013.0	971.224
Ethane	2.3070	30.067	0.0803	0.00185	4.1464	22320	925.47	1792.0	41.3414
Ethylene		28.051	0.0746	0.00000	0.0000	21644	0.00	1614.0	0
Propane	0.3970	44.092	0.1196	0.00047	1.0627	21661	230.20	2590.0	10.2823
propylene		42.077	0.1110	0.00000	0.0000	21041	0.00	2336.0	0
Isobutane	0.0970	58.118	0.1582	0.00015	0.3435	21308	73.19	3363.0	3.26211
n-butane	0.0800	58.118	0.1582	0.00013	0.2833	21257	60.21	3370.0	2.696
Isobutene		56.102	0.1480	0.00000	0.0000	20840	0.00	3068.0	0
Isopentane	0.0340	72.144	0.1904	0.00006	0.1449	21091	30.56	4008.0	1.36272
n-pentane	0.0210	72.144	0.1904	0.00004	0.0895	21052	18.84	4016.0	0.84336
n-hexane	0.0720	86.169	0.2274	0.00016	0.3665	20940	76.74	4762.0	3.42864
H2S		34.076	0.0911	0.00000	0.0000	7100	0.00	647.0	0
total	100.00	Average Density		0.04468	100.0000	Gross Heating Value		Gross Heating Value	
		Specific Gravity		0.58403		Btu/lb	23142	Btu/SCF	1034.4

CALCULATION OF F FACTORS

Component	Mol. Wt.	C Factor	H Factor	% volume	Fract. Wt.	Weight Percents Carbon	Hydrogen	Nitrogen	Oxygen
Hydrogen	2.016	0	1	0.00	0.0000		0		
Oxygen	32.000	0	0	0.00	0.0000				0
Nitrogen	28.016	0	0	0.36	10.1698			0.602268295	
CO2	44.010	0.272273	0	0.75	33.1395	0.534352898			1.42678
CO	28.010	0.42587	0	0.00	0.0000	0			0
Methane	16.041	0.75	0.25	95.88	1537.9469	68.3093034	22.7697678		
Ethane	30.067	0.8	0.2	2.31	69.3646	3.286282746	0.82157069		
Ethylene	28.051	0.85714	0.14286	0.00	0.0000	0	0		
Propane	44.092	0.81818	0.181818	0.40	17.5045	0.848157315	0.18847963		
Propene	42.077	0.85714	0.14286	0.00	0.0000	0	0		
Isobutane	58.118	0.82759	0.17247	0.10	5.6374	0.276296178	0.0575802		
n-butane	58.118	0.82759	0.17247	0.08	4.6494	0.227873136	0.04748883		
Isobutene	56.102	0.85714	0.14286	0.00	0.0000	0	0		
Isopentane	72.144	0.83333	0.16667	0.03	2.4529	0.121052399	0.02421106		
n-pentane	72.144	0.83333	0.16667	0.02	1.5150	0.074767658	0.01495389		
n-hexane	86.169	0.83721	0.16279	0.07	6.2042	0.307606285	0.05981203		
H2S	34.076	0	0.0586923	0.00	0.0000	0	0		
Totals				100.00000	1688.5843	73.98569201	23.98	0.602268295	1.42678

CALCULATED VALUES		
O2 F Factor (dry)	**8674**	DSCF of Exhaust/MM Btu of Fuel Burned @ 0% excess air
O2 F Factor (wet)	**10654**	SCF of Exhaust/MM Btu of Fuel Burned @ 0% excess air
Moisture F Factor	**1980**	SCF of Water/MM Btu of Fuel Burned @ 0% excess air
Combust. Moisture	**18.59**	volume % water in flue gas @ 0% excess air
CO2 F Factor	**1024**	DSCF of CO2/MM Btu of Fuel Burned @ 0% excess air
Carbon Dioxide	**11.81**	volume % CO2 in flue gas @ 0% O2
Predicted Fo Factor	**1.77**	EPA Method 3a Fo value
Fuel VOC % (non-C1)	**6.57%**	non-methane fuel VOC content
Fuel VOC % (non-C1,C2)	**2.36%**	non-methane non-ethane fuel VOC content