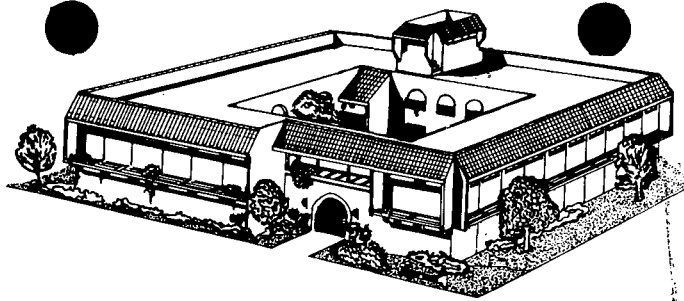


HILLSBOROUGH COUNTY  
ENVIRONMENTAL PROTECTION

COMMISSION

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DEC 19 1986

MEMORANDUM

Date December 17, 1986

To Tom John thru Bill Thomas, DER

From Victor San Agustin thru Jerry Campbell, <sup>VSA</sup> <sub>JJC</sub>

Subject: Permit Renewal for TECO Gannon Unit No. 1

Compliance tests performed on Unit #1 show the following actual emissions. Furthermore, sulfur variability studies performed in Quarter IV, 1985 and Quarter III, 1986 showed S2/0.102 were no greater than half of 1.6 for these two periods. Quarterly SO2 reports show Gannon Station's actual emissions were no greater than 6.6 TPH in 1986 and no greater than 7.8 TPH in 1985.

PM (Non-sootblowing)		PM (Sootblowing)		SO2		Opacity	
Lbs/MMBTU		Lbs/MMBTU		Lbs/MMBTU		%	
Actual	Allowable	Actual	Allowable	Actual	Allowable	Actual	Allowable
0.01	0.1	0.01	0.3	1.6	2.4	0%	20%

I recommend approval to issue a permit renewal with the following conditions:

1. The maximum allowable particulate emission rate from this source shall be 0.1 pounds per MMBTU heat input over a two hour average [Section 17-2.650 (2)(c)2.b.(i), F.A.C.], except for any 3 hours during a 24 hour period in which the boiler is being cleaned by soot blowing or experiencing a load change. Under these operating conditions, the maximum allowable particulate emission rate shall be 0.3 pounds per MMBTU heat input, providing best operational practices to minimize emissions are adhered to and the duration of excess emissions are minimized [Section 17-2.250(3), F.A.C.].
2. The maximum opacity from this source shall be 20 percent [Section 17-2.650 (2)(c)2.b.(ii), F.A.C.] except for: any 2 minutes during a 60 minute period in which the opacity shall not exceed 40 percent [Section 17-2.600 (5), F.A.C.]; any 3 hours during a 24 hour period of excess emissions in which the boiler is being cleaned by soot blowing or experiencing a load change the opacity shall not exceed 60%; allowing four six minute periods during the 3 hour period of unlimited opacity, providing best operational practices to minimize emissions are adhered to and the duration of excess emissions are minimized [Section 17-2.250(3), FAC]; and any excess emissions otherwise allowed under Sections 17-2.250(1), (2), and (3), FAC.

3. The maximum allowable SO<sub>2</sub> emission rate from this unit shall be 2.4 pounds of SO<sub>2</sub> per MMBTU heat input on a weekly average. In addition, Units 1 through 6 at the Gannon Station shall not emit more than a combined total of 10.6 tons of SO<sub>2</sub> per hour on a weekly average [Section 17-2.600(5)(b) 3.b.(i), F.A.C.].
4. This unit shall be stack tested for particulate matter (under both soot blowing and non-soot blowing operating conditions), sulfur dioxide and visible emissions at intervals of 12 months from the date of Feb. 19, 1986 or within a ninety (90) day period prior to this date. The Method 9 Test period on this source shall be sixty (60) minutes. Testing procedures shall be consistent with the requirements of Section 17-2.700, F.A.C. Two copies of test data shall be submitted to both the Hillsborough County Environmental Protection Commission and Florida Department of Environmental Regulation within 45 days of such testing.
5. Compliance with the SO<sub>2</sub> emission standards set for the Gannon Station shall be achieved in part by adhering to the Francis J. Gannon Sulfur Dioxide Regulatory Compliance Plan submitted previously. A quarterly report summarizing the information necessary to determine compliance with the SO<sub>2</sub> standards for this unit and the facility shall be submitted within 45 days following a calendar quarter. The sulfur variability study will be performed on the facility during the last quarter of each year. The results shall be submitted with the quarterly report for that period. The Hillsborough County Environmental Protection Commission and the Florida Department of Environmental Regulation shall each receive a copy of this report.
6. The Florida Department of Environmental Regulation and Hillsborough County Environmental Protection Commission reserve the option to amend, at anytime as it should become necessary, the operation permits for Gannon Station Unit Nos. 1 to 6 to provide reasonable assurance that continued operation of the plant will not jeopardize attainment of ambient air quality standards for sulfur dioxide. This option will be considered upon the occurrence of a weekly mean sulfur content greater than 2.2 lb/10<sup>6</sup> BTU for any of the six coal fired units or upon a finding based on the seven day sulfur variability test, that the ratio:  $S^2 / 0.1^2$  exceeds the value of 1.6.
7. A report shall be submitted to both the Florida Department of Environmental Regulation and Hillsborough County Environmental Protection Commission within 30 days following each calendar quarter detailing any excess opacity readings recorded during the three month period. For the purpose of this report, excess emissions shall be defined as all six minute averages of opacity greater than 20 percent, except as specified in Specific Condition No. 2. The information supplied in this report shall be consistent with the reporting requirements of 40 CFR 51 Appendix P [Section 17-2.710(1), F.A.C.].

8. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following information as per Section 17-4.14, F.A.C.

- (A) Annual amount of materials and/or fuels utilized.
- (B) Annual emissions (note calculation basis).
- (C) Any changes in the information contained in the permit application.

Emission reports shall be submitted to both the Hillsborough County Environmental Protection Commission and Florida Department of Environmental Regulation.

9. Operation and Maintenance for Particulate Control [Section 17-2.650(2), FAC]

A. Process System Performance Parameters:

- (1) Source Designator: Gannon Unit No. 1
- (2) Design Fuel Consumption Rate at Maximum Continuous Rating: 50  
tons coal/hour
- (3) Operating Pressure: 1575 psi
- (4) Operating Temperature: 1000 F
- (5) Maximum Design Steam Capacity: 910,000 pounds per hour

B. Particulate Control Equipment Data:

- (1) Control Equipment Designator: Electrostatic Precipitator
- (2) Electrostatic Precipitators Manufacturer: Combustion Engineering, Inc.
- (3) Design Flow Rates: 440,000 ACFM
- (4) Primary Voltage: 460 volts
- (5) Primary Current: 258 amps
- (6) Secondary Voltage: 56.6 kilovolts
- (7) Secondary Current: 1500 milliamps
- (8) Design Efficiency: 99.09%
- (9) Pressure Drop: 1.59 inches of H<sub>2</sub>O(ave)
- (10) Rapper Frequency: 1/1.5 min - 1/4.0 min (ave)
- (11) Rapper Duration: Impact
- (12) Gas Temperature: 260+ 55 F (ave)

C. The following observations, checks and operations apply to this source and shall be conducted on the schedule specified:

Continuously Monitored and Recorded:

Visible emissions  
Steam Pressure  
Steam Temperature  
Steam Flow

Daily:

Fuel input  
Primary voltage  
Primary current  
Secondary voltage  
Secondary current  
Inspect system controls. Make minor adjustments as needed.

Monthly:

Inspect insulator compartment heaters/blowers. Service as needed.  
Observe operation of all rappers and vibrators.  
Check rapper and transformer/rectifier controls.

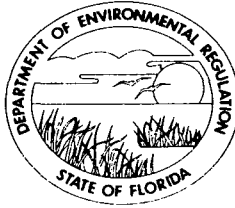
- D. Records of inspection, maintenance, and performance parameters shall be retained for a minimum of two years and shall be made available to the Department or Hillsborough County Environmental Protection Commission upon request [Subsection 17-2.650(2)(g)5., F.A.C.].
10. A continuous emission monitoring system to determine in-stack opacity from this source shall be calibrated, operated and maintained in accordance with Section 17-2.710(1), F.A.C.
  11. An original application to renew this operating permit and three copies with original seals and signatures shall be submitted to the Hillsborough County Environmental Protection Commission at least 60 days prior to the expiration date of this permit.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHWEST DISTRICT

7601 HIGHWAY 301 NORTH  
TAMPA, FLORIDA 33610



BOB GRAHAM  
GOVERNOR

VICTORIA J. TSCHINKEL  
SECRETARY

DR. RICHARD D. GARRITY  
DISTRICT MANAGER

PERMITTEE

Mr. A. Spencer Autry, Manager  
Environmental Planning  
Tampa Electric Company  
Post Office Box 111  
Tampa, FL 33601-0111

PERMIT/CERTIFICATION

Permit No.:  
County: Hillsborough  
Expiration Date:  
Project: Gannon Station  
Unit No. 1

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the operation of a 1257 MMBTU/hr coal fired steam generator designated as Unit No. 1. This "wet" bottom boiler was manufactured by Babcock and Wilcox Corporation and is of the cyclone firing type. The generator has a nameplate capacity of 125 MW. Particulate emissions are controlled by a Combustion Engineering, Inc. Electrostatic Precipitator.

Location: Port Sutton Rd., Tampa

UTM: 17-360.1E

3087.5N

NEDS NO: 0040

Point ID: 01

Replaces Permit No.: A029-47731 & AC29-41943

12/10/86

DER AIR PERMIT INVENTORY SYSTEM  
SOUTHWEST DISTRICT HILLSBOROUGH COUNTY

40/29/0040/01  
PAGE 1

PLANT 0040 TECO GANNON PLANT PRIVATE FILE STATUS NEW AL  
PORT SUTTON ROAD POWER PLANT  
TAMPA FL. 33601  
A.S. AUTRY AQCR=052 SIC=4911  
P O BOX 111 LAT=28:02:31N LON=82:25:31W  
TAMPA 33601 UTM ZONE 17 360.0KM E. 3087.5KM N  
6 COAL FIRED BOILS, 2 GAS TURB., COAL YARD & FLYASH S

POINT 01 CONST PATS# OPER PATS# A029-47731  
ISS= / / EXP= / / ISS=01/27/82 EXP=01/25/87  
UNIT #1 STEAM GENERATOR NUMBER  
SOURCE= IPP=00 COMM.PNTS.00-00  
STACK HT= 306FT DIAM=10.0FT TEMP= 289F FLOW= 446800CFM PLUME=  
BOILER CAP= 1257MBTU/HR FUEL FOR SPACE HEAT= .0%  
OPERATING PROCESS RATES YOR=85 RAW MATERIAL= 0 OTHER  
PRODUCT 0 OTHER FUEL 51 TN/BRN  
NORMAL COND. DEC-FEB=32% MAR-MAY=45% JUN-AUG=23% SEP-NOV=00%  
PERMIT SCHEDULE 24HRS/DAY 7DAYS/WK 52WKS/YR  
AOR FOR 04/19/86 09HRS/DAY 2DAYS/WK 18WKS/YR  
RACT  
COMPLIANCE NEDS=1 QRC=2 UPDATE08/86 SCHED. / UPDATED / /  
PERMIT=1 YOR=86 INSPECTED 01/17/86 NEXT DUE 01/17/87

SCC'S

1-01-004-01 YOR=85 SOURCE=B RATE= 4603 MAX= 8.000 KGL/BRN  
FUEL CONT SO2=1.00% ASH= 0.1% 125MBTU FYOR=85 CONFID=2  
NO. 6 FUEL CONSUMED  
1-01-002-01 YOR=85 SOURCE=B RATE= 58219 MAX= 49.700 TN/BRN  
FUEL CONT SO2=1.12% ASH=73.1% 0MBTU FYOR=85 CONFID=2  
PULVERIZED COAL WET BOTTOM

POLLUTANTS MONITORED

TSP 11101 NORM= 126.00 EST/METH= 21/4 MAX.ALW= 552 TNS/YR.  
CTLS.PRI= 10 SEC= 0 EFF=99.1% NEXT DUE 08/26/87 TEST/FREQ=1  
TESTED 08/26/86 AGENCY=2 REG=650(2)(C) COMPLIANCE=1  
EMITTED= 14.70 ALLOWED= 116.30LBS/HR OP-RATE= 1163 MBTU/P  
VE 11204 NORM= . EST/METH= / MAX.ALW= TNS/YR.  
CTLS.PRI= 0 SEC= 0 EFF= 0.0% NEXT DUE 08/26/87 TEST/FREQ=1  
TESTED 08/26/86 AGENCY=2 REG=650(2)(C) COMPLIANCE=1  
EMITTED= 600.00 ALLOWED= 600.20LBS/HR OP-RATE= 1163 MBTU/P  
CO 42101 NORM= . EST/METH= 29/3 MAX.ALW= TNS/YR.  
CTLS.PRI= 0 SEC= 0 EFF= 0.0% NEXT DUE / / TEST/FREQ=0  
SO2 42401 NORM= 3017.00 EST/METH= 1612/4 MAX.ALW= 13214 TNS/YR.  
CTLS.PRI= 0 SEC= 0 EFF= 0.0% NEXT DUE 08/26/87 TEST/FREQ=1  
TESTED 08/26/86 AGENCY=2 REG=600(5) COMPLIANCE=1  
EMITTED= 18.72 ALLOWED= 2808.00LBS/HR OP-RATE= 1170 MBTU/P  
N

12/10/86

DER AIR PERMIT INVENTORY SYSTEM  
SOUTHWEST DISTRICT HILLSBOROUGH COUNTY

40/29/0040/01  
PAGE 2

NOX 42603 NORM=	.	EST/METH=	1144/3	MAX.ALW=	TNS/YR.	
CTLS.PRI=	0	SEC=	0	EFF= 0.0%	NEXT DUE / /	TEST/FREQ=0
NCH 43102 NORM=	.	EST/METH=	4/3	MAX.ALW=	TNS/YR.	
CTLS.PRI=	0	SEC=	0	EFF= 0.0%	NEXT DUE / /	TEST/FREQ=0

D