

MEMORANDUM

TO: Janice K. Taylor, Tampa Electric Company
Carlos Gonzalez, EPC
Harry Kerns, DER

FROM: Gary A. Maier *Gary A. Maier*

DATE: January 29, 1991

SUBJECT: DER File #AO29-189206, Tampa Electric Company,
Gannon Unit No. 2, Operating Permit Renewal.

Attached, for your inspection, is the second draft of the above referenced operating permit.

Per the recommendation of Darrel Graziani and J. Harry Kerns, and over the duly noted objection of Tampa Electric Company, specific condition #3 of this draft retains the antiquated Hillsborough County Rule 1-3.63(d). This rule requires two minute opacity averaging rather than the normal industry standard of six minute averaging. By incorporating this rule into the operating permit, the Department is electing to assert its jurisdiction under the authority granted by Section 403.182(6), F.S.

The Department is currently scheduled to issue this permit on February 6, 1991.

PERMITTEE:
Tampa Electric Company
P.O. Box 111
Tampa, FL 33601

PERMIT/CERTIFICATION
Permit No: A029-189206
County: Hillsborough
Expiration Date: 02/06/96
Project: F.J. Gannon Station
Unit No. 2

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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 1,257 MM Btu/hour coal fired steam generator designated as Unit No. 2. This "wet" bottom boiler was manufactured by Babcock and Wilcox Corporation and is of the cyclonic firing type. The generator has a nameplate capacity of 125 MW.

Particulate matter (PM) emissions are controlled by a Combustion Engineering, Inc. electrostatic precipitator. Sulfur dioxide emissions (SO₂) resulting from the combustion of fuel are determined by periodic sampling and analysis of the fuel.

Location: Port Sutton Road, Tampa

UTM: 17-359.9 E 3087.5 N NEDS NO: 0040 Point ID: 02

Replaces Permit No.: A029-112412

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SPECIFIC CONDITIONS: **DRAFT**

1. A part of this permit is the attached 15 General Conditions.
2. Except as provided in specific condition #5; the particulate matter emission rate for this source shall not exceed 0.1 pound per million Btu heat input, over a two hour average.
[Rule 17-2.600(5)(a)2., F.A.C.].
3. Except as provided in specific condition #5; visible emissions from this source shall not exceed 20% opacity except for one two-minute period per hour during which opacity shall not exceed 40%.
[Rule 1-3.63(d), Rules of the Hillsborough County Environmental Protection Commission, Section 403.182(6), F.S., and Rule 17-2.600(5)(a)1., F.A.C.].
4. The sulfur dioxide emission rate for this source shall not exceed 2.4 pounds of sulfur dioxide per million Btu heat input on a weekly average. Francis J. Gannon units 1 through 6 in total shall not emit more than 10.6 tons per hour of sulfur dioxide on a weekly average.
[Rule 17-2.600(5)(a)3.b.(i), F.A.C.].
5. Excess Emissions:
 - A. Excess emissions from existing fossil fuel steam generators resulting from startup or shutdown are permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions are minimized. [Rule 17-2.250(2), F.A.C.].
 - B. Excess emissions resulting from boiler cleaning (soot blowing) and load change are permitted provided that the duration of such excess emissions shall not exceed 3 hours in any 24-hour period and visible emissions shall not exceed 60% opacity, and providing (a) best operational practices to minimize emissions are adhered to and (b) the duration of the excess emissions is minimized. Visible emissions above 60% opacity are allowed for not more than 4, six-minute periods, during the 3-hour period of excess emissions allowed by part B. of this specific condition. Particulate matter emissions shall not exceed an average of 0.3 pound per million Btu heat input during the 3-hour period of excess emissions allowed by part B. of this specific condition. [Rule 17-2.250(3), F.A.C.].

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- C. Excess emissions resulting from malfunctions* are permitted providing (a) best operational practices to minimize emissions are adhered to and (b) the duration of excess emissions is minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department of Environmental Regulation for longer duration. [Rule 17-2.250(1), F.A.C.].
- D. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction is prohibited. [Rule 17-2.250(4), F.A.C.].

* In case of excess emissions resulting from malfunctions, Tampa Electric Company shall notify the Environmental Protection Commission of Hillsborough County in accordance with Rule 17-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report; if requested. [Rule 17-2.250(6), F.A.C.].

6. This source shall be stack tested for particulate matter and visible emissions, under both sootblowing and non-sootblowing operation conditions, at intervals of 12 months from the date of August 28, 1990, or within a 90 day period prior to that annual date. A test under sootblowing conditions which demonstrates compliance with a non-sootblowing emission limitation will be accepted as proof of compliance with that non-sootblowing emission limitation. The visible emissions DER Method No. 9 test period for this source shall be at least 60 minutes in duration. Visible emissions testing shall be conducted simultaneously with particulate matter testing unless visible emissions testing is not required. In situations where DER Method No. 9 visible emissions testing is not possible during particulate matter testing, such as under overcast days, independent visible emissions testing may be performed at a later date within but not more than 5 days. Reasons for non-simultaneous testing must be provided in the test report. Testing procedures shall be consistent with the requirements of Rule 17-2.700, F.A.C. A copy of the test data shall be submitted to both the Environmental Protection Commission of Hillsborough County and the Florida Department of Environmental Regulation within 45 days of such testing.

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7. This source shall be stack tested for sulfur dioxide at intervals of 12 months from the date of August 28, 1990, or within a 90 day period prior to that annual date. Testing procedures shall be consistent with the requirements of Rule 17-2.700, F.A.C. A copy of the test data shall be submitted to both the Environmental Protection Commission of Hillsborough County and the Florida Department of Environmental Regulation within 45 days of such testing.

8. Compliance testing for particulate matter emissions and visible emissions may be conducted either: (a) without fly ash re-injection occurring, or (b) while fly ash collected by the precipitator is being re-injected into the boiler at a rate which is representative of the maximum anticipated fly ash re-injection rate. If the most recent particulate and visible emissions compliance tests were conducted without fly ash re-injection occurring, and fly ash re-injection occurs for any reason other than a malfunction, then the results from new particulate and visible emissions compliance tests conducted while fly ash collected by the precipitator is being re-injected into the boiler at a rate which is representative of the maximum anticipated fly ash re-injection rate shall be submitted to the Department of Environmental Regulation and the Environmental Protection Commission of Hillsborough County within 60 days of the date that such fly ash re-injection occurred. The Environmental Protection Commission of Hillsborough County may, for good cause shown, grant an extension of the 60 day time limit on a case by case basis.
[Rule 17-4.070(3), F.A.C.].

9. Compliance with the SO₂ emission standards set for the Gannon Station shall be achieved in part by adhering to the Francis J. Gannon Sulfur Dioxide Regulatory Compliance Plan previously submitted by Tampa Electric Company and incorporated by reference. A quarterly report summarizing the information necessary to determine compliance with the SO₂ 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 Environmental Protection Commission of Hillsborough County and the Florida Department of Environmental Regulation shall each receive a copy of this report.
[Rules 17-4.070(3) and 17-2.600(5)(a)3.b.(i), F.A.C.].

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10. Tampa Electric Company shall submit to both the Florida Department of Environmental Regulation and the Environmental Protection Commission of Hillsborough County a written report of emissions in excess of the emission limiting standards as set forth in Rule 17-2.600(5) for each calendar quarter. The nature and cause of the excessive emissions shall be explained. This report does not relieve Tampa Electric Company of the legal liability for violations. All recorded data shall be maintained on file for a period of at least 2 years. The information supplied in this report shall be consistent with the reporting requirements of 40 CFR 51 Appendix P. The report shall be submitted within 30 days following each calendar quarter. [Rules 17-2.710(1), 17-2.710(2), and 17-4.070(3), F.A.C.].

11. Operation and Maintenance Plan for Particulate Control [Rule 17-2.650(2), F.A.C.].

A. Process System Performance Parameters:

1. Source Designators: Gannon Unit No. 2
2. Design Fuel Consumption Rate at Maximum Continuous Rating: 51 tons coal/hour
3. Operating Pressure: 1580 p.s.i.
4. Operating Temperature: 100 degrees F.
5. Maximum Design Steam Capacity: 950,000 pounds per hour

B. Particulate Control Equipment Data:

1. Control Equipment Designator: Electrostatic Precipitator
2. Electrostatic Precipitator Manufacturer: Combustion Engineering, Inc.
3. Design Flow Rate: 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 H₂O (avg.)
10. Rapper Frequency: 1/1.5 min. - 1/4.0 min. (avg.)
11. Rapper Duration: Impact
12. Gas Temperature: 250±55 degrees F. (avg.)

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- 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 rapper and transformer/rectifier controls.

→ Leaks see draft

- D. Records:

Records of inspections, maintenance, and performance parameters shall be retained for a minimum of two years and shall be made available to the Department of Environmental Regulation or the Environmental Protection Commission of Hillsborough County upon request.
[Rule 17-2.650(2)(g)5., F.A.C.]

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12. The maximum permitted heat input rate for this source is 1,257 million Btu per hour. Approved compliance testing of emissions shall be conducted within $\pm 10\%$ of the maximum permitted heat input rate, when practicable. Testing may be conducted at less than 90% of the maximum permitted heat input rate; however, if so, the maximum permitted heat input rate is automatically amended to be equal to the test heat input rate. If the maximum permitted heat input rate for this source is exceeded by more than 10%, compliance testing shall be performed within 60 days of initiation of the higher rate and the results of the tests shall be submitted to the Department of Environmental Regulation and the Environmental Protection Commission of Hillsborough County. The Environmental Protection Commission of Hillsborough County may, for good cause shown, grant an extension of the 60 day time limit on a case by case basis. Acceptance of said test will automatically amend the maximum permitted heat input rate to be equal to the test heat input rate. Emission limitations are not automatically adjusted above the allowable levels established by the permit and/or the design process rate. The actual heat input rate shall be specified in each test report. Failure to submit the actual heat input rate, or operation at conditions during testing which do not reflect normal operating conditions may invalidate the test and fail to provide reasonable assurance of compliance.
[Rule 17-4.070(3), F.A.C.].

13. Tampa Electric Company shall notify the Environmental Protection Commission of Hillsborough County at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner. The Environmental Protection Commission of Hillsborough County may waive the 15 day notice requirement on a case by case basis.
[Rule 17-2.700(2)(a)9., F.A.C.].

14. A continuous monitoring system to determine in-stack opacity from this source shall be calibrated, operated and maintained in accordance with Rule 17-2.710(1), F.A.C.

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15. Pursuant to Chapter 403.061(13), Florida Statutes, submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following information:

- (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.

An emissions report shall be submitted to both the Environmental Protection Commission of Hillsborough County and the Florida Department of Environmental Regulation.

16. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapter 17-2, F.A.C., or any other requirements under federal, state, or local law. [Rule 17-2.210, F.A.C.].

17. Four applications to renew this operating permit shall be submitted to the Environmental Protection Commission of Hillsborough County by December 8, 1995.
[Rules 17-4.050(2) and 17-4.090(1), F.A.C.].

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

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