

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional []	Reply Required []	Info. Only []
Date Due: _____	Date Due: _____	

TO: The Files

From for
THRU: Dan Williams

FROM: Bob Garrett

DATE: January 25, 1982

SUBJECT: RACT Applications from TECO, Gannon Station, (6) Permits,
Hillsborough County, A/P

Tampa Electric Company has applied for renewal of the following permits to establish RACT compliance.

Unit	Old Permit	New Permit
1. No. 1*	A029-7136	A029-47731
2. No. 2*	A029-15953	A029-47730
3. No. 3*	A029-12940	A029-47729
4. No. 4*	A029-27657	A029-47735
5. No. 5	A029-7102	A029-47728
6. No. 6	A029-12601	A029-47727

*Being converted to coal fired - operation permit is for present oil fired.

FAC 17-2.650 establishes criteria for heavy polluters in Para. (2)(c)2 as 0.1 lbs. TSP/million BTU heat input for fossil fuel steam generators greater than 30 MMBTU/hr. and visible emissions not to exceed 20% opacity. In addition detail information is required by rule pertaining to operation, control devices, and maintenance procedures as part of the permit.

A last minute extension was obtained from TECO to allow both the company and the Department time for more refined information. General questions were answered but no specific numbers for operating parameters were given.

I recommend we issue these permits, accordingly, with an expiration date of January 25, 1987.

DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD

FILE#000000047728 COE# DER PROCESSOR:GARRETT DER OFFICE:TPA
FILE NAME:TAMPA ELECTRIC CO. DATE FIRST REC: 09/15/81 APPLICATION TYPE:A0
APPL NAME:TAMPA ELECTRIC CO. APPL PHONE:(813)228-4111 PROJECT COUNTY:29
ADDR:P.O. BOX 111 CITY:TAMPA ST:FLZIP:33604
AGNT NAME:WILLIAM CANTRELL AGNT PHONE:(813)228-4111
ADDR:P.O. BOX 111 CITY:TAMPA ST:FLZIP:33604

ADDITIONAL INFO REQ: / / / / / / REC: / / / / / /
APPL COMPLETE DATE: 09/15/81 COMMENTS NEC:N DATE REQ: / / DATE REC: / /
LETTER OF INTENT NEC:Y DATE WHEN INTENT ISSUED: / / WAIVER DATE:01/31/82

HEARING REQUEST DATES: / / / / / /
HEARING WITHDRAWN/DENIED/ORDER -- DATES: / / / / / /
HEARING ORDER OR FINAL ACTION DUE DATE: / / MANUAL TRACKING DESIRED:N

*** RECORD HAS BEEN SUCCESSFULLY UPDATED *** 01/29/82 11:00:25
FEE PD DATE#1:09/17/81 \$0020 RECEIPT#00054851 REFUND DATE: / / REFUND \$
FEE PD DATE#2: / / \$ RECEIPT# REFUND DATE: / / REFUND \$
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:IS DATE:01/27/82
REMARKS:TECO
GANNON STATION UNIT 5

DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHWEST DISTRICT

7601 HIGHWAY 301 NORTH
TAMPA, FLORIDA 33610



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

WILLIAM K. HENNESSEY
DISTRICT MANAGER

March 11, 1982

Mr. Jerry L. Williams
Manager, Environmental Planning
Tampa Electric Company
P.O. Box 111
Tampa, Fla. 33601

RE: Permit Nos. AO29-47721 through AO29-47731
and AO29-47735


Dear Mr. Williams:

Enclosed are revised provisos for each of the above referenced permits. Per conversation and negotiations between John Ramil of TECO and Dan Williams of DER the problems with the original permits issued January 11, 1982 have been resolved.

Your petition rights for administrative hearing remain the same as described in the original permit.

The revised provisos replace the original provisos and become a part of each permit.

Sincerely,


William K. Hennessey
District Manager
Southwest District

WKH/rkt

cc: HCEPC

SPECIFIC CONDITIONS

1. Test the emissions for the following pollutant(s) at intervals of 12 months from date of July 29, 1981 and submit a copy of test data to the District Engineer of this agency within fifteen days of such testing. [Chapter 17-2.700(2)], F.A.C.]

- | | |
|------------------|-------------------------|
| (X)Particulates | (X)Sulfur Oxides* |
| ()Fluorides | ()Nitrogen Oxides |
| (X)Plume Density | ()Hydrocarbons |
| | ()Total Reduced Sulfur |

*Fuel analysis is acceptable

2. Testing of emissions must be accomplished at approximately the rates as stated in the application. Failure to submit the input rates or operation at conditions which do not reflect actual operating conditions may invalidate the data [Chapter 403.161(1)(c), Florida Statutes].
3. 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 Chapter 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.
4. Particulate emission limits for this unit is 0.1 lb TSP/MMBTU/hr heat input per F.A.C. 17-4.650(2)(c)2.
5. Visible emissions are limited to a density of number 1 on the Ringelmann Chart (20 percent opacity) except that a shade as dark as No. 2 of the Ringelmann Chart (40% opacity) shall be permissible for no more than 2)minut one hour. [F.A.C. 17-2.600(5)(a)1].
6. Sulfur dioxide emissions are limited to 2.4 lbs. of SO2 per million BTU heat input for this unit on a weekly average. A total of 10.6 tons per hour of SO2 is a maximum emission from Units 1 through 6 at the Cannon Generating Station [F.A.C. 17-2.600(5)(b)3b(i)].
7. Operation and Maintenance Plan for Particulate Control F.A.C. 17-2.650

A. Control Equipment Data (Two Electrostatic Precipitators)

- | | | |
|--------------------------|-------------------------|------------|
| 1. Manufacturer: | Research Cottrell, Inc. | |
| 2. Model Name & No.: | G.O. 3129 and G.O. 2791 | |
| 3. Type: | ESP | ESP |
| 4. Design Flow: | 820 KCFM | 700 KCFM |
| 5. Primary Voltage: | 430-480V | 430-460 V |
| 6. Primary Current: | 241 Amps | 152 Amps |
| 7. Secondary Voltage: | 53.5 KV | 53.3 KV |
| 8. Secondary Current: | 1.5 Amps | 1.0 Amps |
| 9. Design Efficiency: | 99.78% | 98.5% |
| 10. Pressure Drop: | 1/2" water | 1/2" water |
| 11. Static Pressure: | 15" water | 15" water |
| 12. Rapper Duration: | Impact | Impact |
| 13. Rapper Frequency: | 1/2 min | 1/2 min |
| 14. Temperature: | 293 F | 289 F |
| 15. Stack Height: | 306 Ft. | 306 Ft. |
| 16. No. of Compartments: | 32 | 32 |

B. Process Parameters

- | | |
|-----------------------|--------------------|
| 1. MMBTU Input: | 2284 (239.4 MW) |
| 2. Fuel or Fuel Mix: | Pulverized Coal |
| 3. TPH Burned: | 93.4 Max - 83 Avg. |
| 4. TPH Ash Produced: | 8.9 Max. |
| 5. Steam Temp: | 1000 F |
| 6. Steam Press: | 2250 psi |
| 7. Steam Flow | 1,660 MPPH |
| 8. Air to Fuel Ratio: | |

C. Inspection and Maintenance Schedules

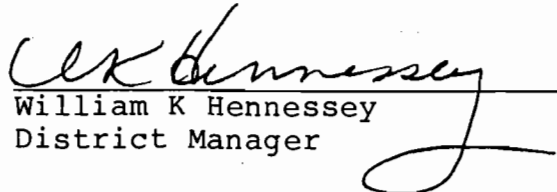
1. Planned Outages: non peak load periods (Spring & Fall)
2. Weekly Activities:
 - Inspect penthouse fan filters
 - Observe Operation of all rappers & vibrators for lift, intensity, and sequence
3. Daily Activities:
 - Inspect System Controls (voltage and amperage)
 - Check operation of inlet duct distribution plate rappers and insulator cleanliness
 - Log ESP parameters
 - Primary voltage from control room
 - Primary current from control room
 - Secondary current from control room
 - Spark rate from control room
 - Excess air is continuously monitored
 - Steam flow is monitored continuously

D. Records

Records of inspection, maintenance, and performance parameter data shall be retained for a minimum of two years and shall be made available to the Department upon request. [F.A.C. 17-2.650(2)(g)5].

Issued this 27th day of January,
1982.

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION


William K Hennessey
District Manager

EXPIRATION DATE: January 25, 1987



7/12
D.E.P.
JUL 16 1999
Southwest District Tampa

July 13, 1999

Mr. Gerald Kissell
Air Permitting Supervisor
Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

**Via Facsimile and
U.S. Mail**

**RE: Tampa Electric Company (TEC) - F.J. Gannon Station
Slag Tank Emergency Venting Vessel Entry Procedure
FDEP Permit Nos. AO29-204434, AO29-189206, AO29-172179
AO29-255208, AO29-203511, AO29-203512**

Dear Mr. Kissell:

In accordance with the Department's letter (dated July 9, 1997) which authorizes emergency atmospheric venting of the Gannon Units 1- 6 slag tanks, TEC provides the following vessel entry procedures:

This document is prepared and provided in accordance with Specific Condition 3 of the FDEP letter authorizing emergency venting of slag tanks dated 7/7/97.

In general, emergency venting of the slag tanks will occur when there is a need to open the slag tank neck and the main vent is plugged or appears to be plugged. For clarification purposes, the main vent is the vent which exhausts combustible gases into the precipitator. As stated in the TEC request, plugging of the main vent line can lead to seriously dangerous situations.

To open a slag tank neck safely, it will first be ensured that the slag tap opening from the boiler is closed. Then, the tank's recently installed purge vent may be opened. Air or another suitable inert gas will then be applied to a nearby access port to allow venting of any combustible gases through the new purge vent. Upon venting completion, the purge vent will immediately be returned to the closed position. The unit, date of, and duration of purging will be recorded. All records will be available for inspection.

Mr. Gerald Kissell
July 13, 1999
Page 2 of 2

If you have any questions regarding this procedure, please feel free to call James Hunter at (813) 641-5033.

Sincerely,

A handwritten signature in cursive script that reads "Theresa J.L. Watley".

Theresa J.L. Watley
Consulting Engineer
Environmental Planning

EP\gm\TJLW654

c: Mr. Rick Kirby, EPCHC



RECEIVED
SEP 02 1994

Department of Environmental Protection
SOUTHWEST DISTRICT

September 1, 1994

Mr. Jerry Kessel
Florida Department of
Environmental Protection
3804 Coconut Palm Drive
Tampa, Florida 33605

Facsimile Transmission
Certified Mail # P 278 133 799
Return Receipt Requested

Re: Tampa Electric Company (TEC)
F.J. Gannon Station
Permit Amendment Request for Units 1, 3-6

Dear Mr. Kessel:

Pursuant to your conversation with Janice Taylor on August 31, 1994, TEC requests Air Operating Permits No. AO29-204434, AO29-172179, AO29-160269, **AO29-203511** and AO29-203512 be amended to be consistent with all of TEC's Air Operating Permits.

Change Specific Condition from:

This source 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 **(Insert Source's Test Window)** or within a ninety (90) day period prior to this date. All testing procedures shall be consistent with the requirements of Rule 17-2.700, F.A.C. (as applicable to fossil fuel steam generators under Rule 17-2.600(5) (a), F.A.C. in Table 700-1, F.A.C.). The DER Method 9 observation period shall be at least 60 minutes in duration and conducted during sootblowing conditions. 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 up to 5 days later. 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 Protection within 45 days of such testing. [Rules 17-2.700(2) (a)2. and 17-2.700(2) (a)4., F.A.C.]

To:

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 **(Insert Source's Test Window)**, or within a 90 day period prior to that

OKAY - JANICE TAYLOR

AND SO₂

9/12/94 JAT

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 Protection within 45 days of such testing.

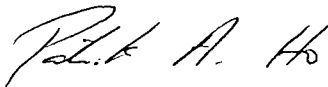
The following table lists each unit, the corresponding permit no. and applicable specific condition for your use.

<u>Unit No.</u>	<u>Permit No.</u>	<u>Specific Condition No.</u>
1	AO29-204434	6
3	AO29-172179	5
4	AO29-160269	5
5	AO29-203511	6
6	AO29-203512	6

As discussed, Gannon Unit 3 is currently scheduled for its annual stack test on September 20, 1994. It is TEC's understanding, that provided the Department has no objection to these amendments, the Department would allow Unit 3 to follow the proposed testing conditions prior to final permit amendment.

Should you require further information, please feel to call me or Ms. Taylor at 228-4839. TEC appreciates your expeditious review.

Sincerely,



Patrick A. Ho, P.E.
 Manager
 Environmental Planning

ec/QQ666

c: Richard Kirby, EPC-Tampa

Memorandum

Florida Department of
Environmental Protection

TO: File

FROM: Robert Soich *RS*

Date: 12/15/93

SUBJECT: Burning of on-spec used oil at TECO Gannon electric generating facility.

As a result of hazardous waste inspections and warning letters WL93-0065HW29SWD and WL93-0066HW29SWD the air section has been informed that burning of on-spec used oil has been, and continues to be an on-going practice at Gannon Station. The existing air operating permits do not mention this activity nor is there correspondence in the permit file. At this time, this does not appear to be in conflict with air regulations.

Originally, the inspectors thought that on-spec used oil was burned in the turbine but, TECO personnel clarified that it was burned in the boilers. Approximately 94,000 gallons of on-spec used oil was burned in 1992. This represents 4.82% of the fuel oil burned at Gannon when compared to fuel oil burned, at the facility, as reported on their 1992 AORs.

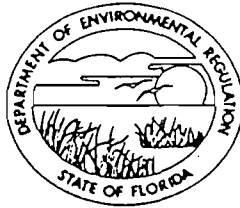
The State of Florida promotes the burning of both off-spec and on-spec used oil. Burning of off-spec used oil is subject to all the notification and permitting requirements. The burning of on-spec used oil is subject as follows:

" If your current air pollution operation permit, construction permit, or BACT determination does not specifically prohibit the burning of used oil, then you may responsibly burn (on-specification) used oil without any permit modification until the Department notifies you that your permit needs to be revised." (Victoria J. Tschinkel, used oil as a fuel, 1/5/87 memorandum.)

Upon renewal of Gannon Units 1 thru 6 air operating permits, the permit engineer may want to address the burning of on-spec used oil. Are sampling and analysis requirements needed in the specific conditions of the permit to ensure that used oil specifications are adhered to? It should be noted that from the inspection, it appears that TECO does sample the oil to verify that it meets the definition (specifications) of on-spec used oil.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

MEMORANDUM

TO: Managers of Electric Utilities, Asphalt Plants, and Other Industrial Burners

FROM: Victoria J. Tschinkel *VJ*

DATE: January 5, 1987

RE: Used Oil as a Fuel

On April 28, 1986, I issued a memorandum to inform you of recently promulgated federal rules on the burning of used oil. Because some recipients of that memorandum have voiced concerns about the Department's interpretation of certain provisions of the regulations, this memorandum supersedes all previous communication on the subject of used oil as a fuel.

On November 29, 1985, the U.S. EPA promulgated final RCRA regulations on the burning of used oil fuel. The Department has adopted these regulations by reference. The EPA regulations establish specifications for used oil fuel that may be burned in nonindustrial boilers.

Used Oil Specifications

<u>Constituent/Property</u>	<u>Allowable Level</u>
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	4,000 ppm maximum
Flash Point	100 degrees Fahrenheit minimum

Burning of off-specification used oil and hazardous waste fuels in non-industrial boilers is prohibited by the RCRA rules. The April 28 memorandum may have left some readers with the impression that industrial burners were also restricted by these rules to burning fuel that met specifications; however,

Memorandum
Page Two
January 5, 1987

industrial boilers and furnaces may burn hazardous waste fuel and used oil fuel, regardless of whether the fuels meet specifications. It should be noted, however, that facilities that burn hazardous waste fuel and off-specification used oil fuel are still subject to administrative requirements such as notification, receipt of an identification number, compliance with the manifest or invoice systems, and, for hazardous waste fuels, compliance with hazardous waste storage standards for hazardous waste fuels.

No level for PCBs is included in the used oil specifications, since the use, including burning for energy recovery, of used oil containing any concentrations of PCBs is prohibited under current federal regulations. Some readers of the April 28 memorandum expressed concern about this statement, asserting that 40 CFR §761.1 makes federal PCB regulations applicable only to substances containing more than 50 ppm PCBs. I have conferred with EPA headquarters concerning the federal position on the issue of burning used oil contaminated with less than 50 ppm PCBs. It is EPA's position that the burning for energy recovery of used oils containing any concentration of PCBs was prohibited as of October 1, 1984. This conclusion is based on 40 CFR §761.20(a), which prohibits use of PCBs in any concentration unless it is specifically authorized under 40 CFR §761.30. Although EPA has authorized the processing and distribution in commerce of PCBs in concentrations of less than 50 PPM for purposes of disposal, 40 CFR §761.20(c)(4), that agency has taken the position that burning for energy recovery is "use" rather than "disposal" and is, therefore, prohibited. Note, however, that PCBs in concentrations of less than 50 ppm may be burned in a high efficiency boiler as an approved PCB disposal method pursuant to 40 CFR §761.60, provided that state air permitting requirements have also been satisfied.

Ms. Jane Kim of the Office of Toxic Substances at EPA headquarters (202/382-3991) has indicated to Department staff that EPA is considering amending federal PCB regulations to allow the burning for energy recovery of used oil containing less than 50 ppm PCBs. Until then, she suggests that companies wishing to burn these oils submit a request to EPA Region IV for authorization with respect to the federal rules. I suggest that interested parties direct any comments on the federal regulation or the anticipated amendment directly to EPA.*

* Since the state PCB rule, Rule 17-34, Florida Administrative Code, only regulates the storage for disposal of PCBs, the use of PCBs is not regulated by the Department. However, Department air rules 17-2, F.A.C., and the basic permitting requirement of Chapter 403 F.S. must be complied with.

Memorandum
Page Three
January 5, 1987

Although the specification for total halogens (chemicals containing chlorine, bromine, iodine, or fluorine) is 4,000 ppm, used oil containing over 1,000 ppm will be presumed to have been mixed with a halogenated hazardous waste. In the April 28 memorandum, I stated that used oil fuels with more than 1,000 ppm total halogens should not be burned in boilers unless the marketer can show that the used oil does not contain any halogenated hazardous wastes. To clarify any confusion that this statement may have caused, I would like to make the following points:

1. As noted above, hazardous waste fuel and off-specification used oil fuel may be burned for energy recovery in industrial boilers. We did not intend to suggest that such use is prohibited by the RCRA rule.
2. Also, as previously noted, persons may rebut the presumption that used oil containing more than 1,000 ppm total halogens has been mixed with hazardous waste (for example, by showing that the used oil does not contain significant concentrations of halogenated hazardous constituents). The use of the word "any" may have caused some confusion in our cautionary statement; however, since the management and storage standards for used oil and hazardous waste fuels differ, the Department felt that a strong caution was in order.

Finally, I would like to clarify the discussion in my April 28, 1986, memorandum regarding air permitting considerations for the burning of used oil. In that memorandum I stated that the authorization to burn used oil requires that air construction permits be modified to insure that any changes to permit conditions will be federally enforceable. Upon reconsideration on this point, I am now revising the guidance in the previous memorandum as follows:

1. If your current air pollution operation permit, construction permit, or BACT determination does not specifically prohibit the burning of used oil, then you may responsibly burn "on-specification" used oil without any permit modification until the Department notifies you that your permit needs to be revised.

Memorandum
Page Four
January 5, 1987

2. If your air permit or BACT determination specifically prohibits the burning of used oil, or if you are burning "off-specification" used oil, you will need to contact the appropriate Department district office within the next 90 days to discuss what type of authorization is needed.

In addition to the air permitting considerations, facilities that burn more than 10,000 gallons of used oil annually must register with the Department as use oil recyclers in accordance with Florida Administrative Code Rule 17-7, Part V, unless specifically exempted under the provisions of that rule.

By burning used oil in an approved manner, you will help Florida recycle a valuable resource, to cut down on its energy dependence, and to protect our fragile environment. You also will be saving money on your fuel bill. We will all benefit by efforts to properly recycle used oil through its use as a fuel.

If you have any questions or comments, please refer them to David Kelley at (904)488-0300 in the Bureau of Waste Management or Barry Andrews at (904)488-1344 in the Bureau of Air Quality Management.

VJT/ks

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION



Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

To: _____ Loc: _____
To: _____ Loc: _____
To: _____ Loc: _____
From: _____ Date: _____

TO: District Managers
District Air Engineers
District Air Permitting Engineers
Local Program Air Directors

THRU: Randy Armstrong
Howard Rhodes
Richard Wilkins

FROM: Clair Fancy

DATE: October 22, 1987

SUBJ: Policy to Regulate Used Oil Burning

On November 29, 1985, the U.S. EPA promulgated final regulations on the burning of used oil fuel. These regulations establish specifications for used oil fuel that may be burned in non-industrial boilers. The Department has adopted the rule by reference and has communicated its position on used oil burning by means of a memorandum sent to managers of electric utilities, asphalt plants, and other industrial burners on January 5, 1987.

At the time that the January 5, 1987 memorandum was distributed, the Department was uncertain how used oil fuel which did not meet the specifications established by the EPA rule should be handled. Since that time, the Bureau of Air Quality Management (BAQM) has been actively involved in developing guidelines to regulate the burning of used oil fuel which does not meet EPA specifications. This memorandum provides a summary of the specification limits established by the EPA for burning used oil in non-industrial boilers as well as presenting the BAQM's policy for regulating the emissions from burning off-specification used oil in industrial furnaces and boilers. The policy to regulate off-specification used oil is based on a paper which was presented at the 1987 Annual Conference of the Florida Section's Air Pollution Control Association by Barry Andrews. A copy of the paper is attached. In addition, this memorandum will address how sources burning either specification or off-specification used oil should be permitted.

D. E. R.

NOV 20 1987

DRAFT

Specification Used Oil Burning

Emission Limitations

Non-industrial boilers may only burn oil which is in compliance with the following limitations:

<u>Constituent/Property</u>	<u>Allowable Level</u>
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	4,000 ppm maximum *
Flash Point	100 degrees Fahrenheit minimum

* It is presumed that used oil containing greater than 1,000 ppm total halogens has been mixed with a halogenated hazardous waste. Used oil fuels that contain more than 1,000 ppm total halogens should not be burned in non-industrial boilers unless the marketer can show that the used oil does not contain any halogenated hazardous waste.

Industrial boilers and furnaces may also burn specification used oil.

Permitting Guidelines

Specification used oil will be considered to be equivalent to virgin oil. Only in the case that an air permit or BACT determination does specifically prohibit the burning of used oil, will it be necessary to contact the appropriate district or local office to obtain authorizations.

Off-Specification Used Oil Burning

Emission Limitations

Non-industrial boilers may not burn used oil which exceeds the previously mentioned specification levels.

Industrial boilers and furnaces may only burn used oil which complies with the following limitations. These emission limitations are based on the type of fuel burning equipment used as follows:

Asphaltic Concrete Kilns, Light-Weight Aggregate Kilns,
Lime Kilns, and Industrial Boilers

Arsenic, Cadmium, and Chromium:

$$\frac{(As)}{3.9 \times 10^{-4}} + \frac{(Cd)}{9.8 \times 10^{-4}} + \frac{(Cr)}{1.4 \times 10^{-3}} \leq 1.0$$

where (As), (Cd), and (Cr) defined by

$$MFR = \frac{(M_w \times R_w) + (M_F \times R_F)}{H_T} \times 10^{-6}$$

where:

MFR - individual metal feed rate in pounds per million Btu of total heat input

M_w - individual metal concentration in used oil (ppm)

R_w - used oil feed rate in pounds per hour

M_F - concentration of metal in the other fuel (ppm)

R_F - feed rate of other fuel in pounds per hour

H_T - total heat input to the device in million Btu/hour

Lead:

MFR shall not exceed 1.6×10^{-2} pounds per million Btu.

Hydrogen Chloride:

CFR shall not exceed 0.70 pounds per million Btu.

where CFR is defined by

$$CFR = \frac{(C_w \times R_w) + (C_F \times R_F)}{H_T} \times 10^{-6}$$

Where:

CFR - total chlorine feed rate in pounds per million Btu

C_w - Chlorine concentration in the used oil (ppm)

C_F - Chlorine concentration in the other fuel (ppm)

DRAFT

Cement Kilns (Wet & Dry)

Arsenic, Cadmium, and Chromium:

$$\frac{(As)}{1.7 \times 10^{-3}} + \frac{(Cd)}{4.3 \times 10^{-3}} + \frac{(Cr)}{6.3 \times 10^{-3}} \leq 1.0$$

Lead:

MFR shall not exceed 6.7×10^{-2} pounds per million Btu.

Hydrogen Chloride:

CFR shall not exceed 1.8 pounds per million Btu.

Permitting Guidelines

For facilities presently burning or planning to burn off-specification used oil it will be necessary to contact the appropriate district or local program office to obtain authorization (permit revision). It is expected that the majority of the requests to burn off-specification used oil will be in compliance with the emission limitation equations presented herein. To expedite approval, the various districts will be provided with worksheets and detailed instructions to quickly determine if an off-specification used oil burner will be in compliance.

Exemptions

Exemptions will be granted to facilities which generate and burn small quantities of off-specification used oil on site. To qualify for this exemption a burner must only burn off-specification used oil fuel that is generated on-site and is burned in quantities that do not exceed one percent of a particular fuel burning equipment's total volume consumption or heat input. On-site burners will be characterized as "small quantity" burners by the following criteria:

<u>Equipment</u>	<u>Size (MMBtu/hr)</u>	<u>Quantity limit/device (gallon/month)</u>
Boilers (1)	0.4 to 1.5	7
	>1.5 to 10	13
	>10 to 50	26
	>50 to 150	55
	>150 to 400	100
	>400	300
Asphaltic Concrete kilns (2)	>18	110
Lime kilns (3)	>60	200
Light-Weight Aggregate kilns (4)	>45	110
Wet Cement kilns (5)	90 to 200	170
	>200	420
Dry Cement kilns (5)	60 to 160	140
	>160	280

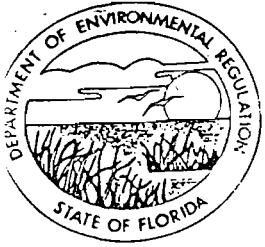
- (1) No more than two boilers at a time
- (2) No more than one asphaltic concrete kiln at a time
- (3) No more than two lime kilns at a time
- (4) No more than three light-weight aggregate kilns at a time
- (5) No more than three cement kilns at a time

Conclusion

The Bureau of Air Quality Management believes that the policy outlined in the memorandum will accomplish the Department's goal to encourage the burning of used oil, yet provide assurance that the public's health and environment will not be threatened.

As with any regulation or policy development, it is difficult to address all the situations and problems that could occur when writing proposals for regulating sources. Any questions regarding the content of this memorandum should be directed to Barry Andrews, Project Engineer, Bureau of Air Quality Management, at (904)488-1344.

CF/plm



Florida Department of Environmental Regulation

Southwest District

Lawton Chiles, Governor

3804 Coconut Palm

813-744-6100

April 13, 1993

Tampa, Florida 33619

Virginia B. Wetherell, Secretary

MR LYNN ROBINSON
MGR ENV PLANNING
TAMPA ELECTRIC CO
PO BOX 111
TAMPA FL 33601-0111

Dear Permittee:

RE: Permit Expiration Letters for Non-delegated Facility in Hillsborough County

The Department recently delegated air permitting authority to the Environmental Protection Commission of Hillsborough County, except for a few non-delegated facilities, such as yours. This letter is to advise you that in the future, the Department will not continue the practice of notifying your facility of permits due to expire. This service was provided by the County in the past.

For information purposes only please note the following:

Pursuant to Rule 17-4.080(3), F.A.C., *Modification of Permit Conditions*, the permittee, may, for good cause, request that a construction permit be extended. Such a request shall be submitted to the Department at least 60 days prior to the expiration date of the permit.

Pursuant to Rule 17-4.090(1), F.A.C., *Renewals*, an application to renew an operating permit shall be submitted to the Department no later than 60 days prior to the expiration date of the permit.

Thank you for your cooperation in this matter. If you have any questions, please call Mr. J. Harry Kerns, P.E., District Air Engineer, of my staff at (813)744-6100 extension 419.

Sincerely,

W. C. Thomas, P.E.
Air Program Administrator

WCT/HK/ss

cc: Read file
EPCHC

permtx.hr

PERMIT APPLICATION STATUS SHEET

COMPANY: Tampa Electric Co.

PROCESSOR: G. Harris
~~G. Harris~~

PERMIT NO.: A029-203511

DATE RECEIVED: OCT 07 1991

PE SEAL & SIGNATURE: Y N

CHECK: Y N

	DATE TASK COMPLETED	INITIALS
DATE RECEIVED BY SECTION:	<u>OCT 14 1991</u>	<u>mq</u>
LOGGED BY SECTION SECRETARY:	<u> </u>	<u> </u>
PERMITTING ENGINEER SUBMIT FINISHED PERMIT PACKAGE & RECOMMENDATIONS TO DISTRICT AIR ENGINEER:	<u>1-2-92</u>	<u>HC</u>
PERMIT PACKAGE TO DISTRICT AIR ADMINISTRATOR:	<u>1/2/92</u>	<u>WJ</u>
PERMIT PACKAGE TO DISTRICT DEPUTY ASSISTANT SECRETARY:	<u> </u>	<u> </u>
PERMIT PACKAGE MAILED OUT:	<u>JAN 03 1992</u>	<u>mq</u>

DATA FOLLOW UP

ISSUE DATE UPDATED ON PATS: JAN 03 1992 mq

UPDATED ON WANG: JAN 03 1992 mq

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

181392

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Jampa Electric Co. Date 10/7/91
Address PO Box 3085 Jampa Dollars \$ 2000.00
Applicant Name & Address Same
Source of Revenue Hannon Station # 5+6
Revenue Code 1032 Application Number A029-203511
ck 33600 By Alvina Krug A029-203512

TO: Alvina Krug

FROM: Harry Kerns

DATE: Oct. 11, 91

SUBJECT: Air Permit Application TECO

Hannon Units 5 & 6

Fee submitted is: correct (✓), incorrect ()

Correct fee should be \$ _____

Sub Type 2a (Similar)

Comments: need 2 file nos.

APPLICATION TRACKING SYSTEM

JAN 03 1992

10/14/91

APPL NO:203511

APPL RECVD:10/07/91 TYPE CODE:AD SUBCODE:2A LAST UPDATE:10/14/91

DER OFFICE RECVD:TPA DER OFFICE TRANSFER TO:___ APPLICATION COMPLETE:___/___/___

DER PROCESSOR:AIK MAIER

APPL STATUS:AC DATE:10/07/91 (ACTIVE/DENIED/WITHDRAWN/EXEMPT/ISSUED/GENERAL)

RELIEF:___ (SSAC/EXEMPTIONS/VARIANCE)

(Y/N) N MANUAL TRACKING DISTRICT:40 COUNTY:29
(Y/N) N DGC HEARING REQUESTED LAT/LONG:27.54.25/82.25.21
(Y/N) N PUBLIC NOTICE REQD? BASIN-SEGMENT:___
(Y/N) N GOV BODY LOCAL APPROVAL REQD? COE #:___
(Y/N) Y LETTER OF INTENT REQD? (I/ISSUE D/DENY) ALT#:___

PROJECT SOURCE NAME:GANNON STATION UNIT 5

STREET:PORT SUTTON RD.

CITY:TAMPA

STATE:FL

ZIP:___

PHONE:___

APPLICATION NAME:TAMPA ELECTRIC CO.

STREET:P.O. BOX 3285

CITY:TAMPA

STATE:FL

ZIP:33601

PHONE:___

AGENT NAME:___

STREET:___

CITY:___

STATE:___

ZIP:___

PHONE:___

FEE #1 DATE PAID:10/07/91 AMOUNT PAID:02000 RECEIPT NUMBER:00181392

B DATE APPLICANT INFORMED OF NEED FOR PUBLIC NOTICE
C DATE DER SENT DNR APPLICATION/SENT DNR INTENT
D DATE DER REQ. COMMENTS FROM GOV. BODY FOR LOCAL APP.
E DATE #1 ADDITIONAL INFO REQ--REC FROM APPLICANT
E DATE #2 ADDITIONAL INFO REQ--REC FROM APPLICANT
E DATE #3 ADDITIONAL INFO REQ--REC FROM APPLICANT
E DATE #4 ADDITIONAL INFO REQ--REC FROM APPLICANT
E DATE #5 ADDITIONAL INFO REQ--REC FROM APPLICANT
E DATE #6 ADDITIONAL INFO REQ--REC FROM APPLICANT
F DATE LAST 45 DAY LETTER WAS SENT
G DATE FIELD REPORT WAS REQ--REC
H DATE DNR REVIEW WAS COMPLETED
I DATE APPLICATION WAS COMPLETE [10/07/91]
J DATE GOVERNING BODY PROVIDED COMMENTS OR OBJECTIONS
K DATE NOTICE OF INTENT WAS SENT--REC TO APPLICANT
L DATE PUBLIC NOTICE WAS SENT TO APPLICANT
M DATE PROOF OF PUBLICATION OF PUBLIC NOTICE RECEIVED
N WAIVER DATE BEGIN--END (DAY 90) [12/19/91--01/03/92]

COMMENTS:

01/03/92



D. E. R.

December 19, 1991

DEC 20 1991

HAND DELIVERED

SOUTHWEST DISTRICT
TAMPA

Mr. Darrel Graziani
Environmental Protection Commission
of Hillsborough County
1410 North 21st Street
Tampa, FL 33605

Re: Tampa Electric Company
F.J. Gannon Station Unit Five Air Operation Permit Renewal
Extension of Time to Issue Permit #A029-203511

Dear Darrel:

Based upon conversations with the Environmental Protection Commission of Hillsborough County, Florida Department of Environmental Regulation, and Tampa Electric Company (TEC) staff, TEC agrees to waive the 90-day time limit for the above referenced permit issuance. The attached waiver provides an extension of approximately thirty (30) days.

Please feel free to contact Ms. Janice Taylor or me at 228-4836, if you have any questions.

Sincerely,

Lynn F. Robinson, P.E.
Manager
Environmental Planning

sn/QQ466

Enclosure

✓ cc/enc: Mr. Bill Thomas, FDER

TAMPA ELECTRIC COMPANY

P.O. Box 111 Tampa, Florida 33601-0111 (813) 228-4111
P.O. Box 271 Winter Haven, Florida 33882-0271 (813) 294-4171
P.O. Drawer N Plant City, Florida 33564-9009 (813) 752-1115
P.O. Box 588 Dade City, Florida 33526-0588 (904) 567-5101

P.O. Box 907 Ruskin, Florida 33570-0907 (813) 645-6461
(Ruskin Engineering & All Other Inquiries (813) 641-1411)
137 S. Parsons Av. Brandon, Florida 33511-5224 (813) 681-4451
P.O. Box 215 Mulberry, Florida 33860-0215 (813) 425-4988



Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347 • 813-623-5561

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearez, Assistant Secretary
Dr. Richard Garrity, Deputy Assistant Secretary

WAIVER OF 90 DAY TIME LIMIT UNDER SECTIONS 120.60(2) and 403.0876, FLORIDA STATUTES

License (Permit, Certification) Application No. A029-203511

Applicant's Name: Tampa Electric Company

The undersigned has read Sections 120.60(2) and 403.0876, Florida Statutes, and fully understands the applicant's rights under that section.

With regard to the above referenced license (permit, certification) application, the applicant hereby with full knowledge and understanding of (his) (her) (its) rights under Sections 120.60(2) and 403.0876, Florida Statutes, waives the right under Sections 120.60(2) and 403.0876, Florida Statutes, to have the application approved or denied by the State of Florida Department of Environmental Regulation within the 90 day time period prescribed in Sections 120.60(2) and 403.0876, Florida Statutes. Said waiver is made freely and voluntarily by the applicant, is in (his) (her) (its) self-interest, and without any pressure or coercion by anyone employed by the State of Florida Department of Environmental Regulation.

This waiver shall expire on the 3rd day of February 1992.

The undersigned is authorized to make this waiver on behalf of the applicant.

Lynn F. Robinson
Signature

Lynn F. Robinson, P.E.
Name (Please Type or Print)

Manager, Environmental Planning

D. E. R.

DEC 20 1991

SOUTHWEST DISTRICT
TAMPA



TO WHOM IT MAY CONCERN:

Please be advised that Lynn F. Robinson, Manager, Environmental Planning, is the authorized representative of Tampa Electric Company concerning matters with which this permit application deals.

Very Truly Yours,

William N. Cantrell
Vice President
Energy Resources Planning

sn/GG398

REC'D

OCT 07 1991

ENV. PROT. COMM.
OF F.C.

TO: TECO - Gannon Station Unit #5
THRU: W.C. Thomas
THRU: J. Estler
FROM: Tom John
DATE: January 2, 1987
SUBJECT: Recommend that permit No.AO29-125993
be issued to TECO Gannon Station Unit #5.

Based on information received, both HCEPC and I recommend that permit No. AO29-125993 be issued to TECO for the Gannon Station Unit #5 power plant. The source, located on Port Sutton Road, Tampa, is a 2284 MMBTU/hr coal fired steam generator, controlled by two Research Cottrell, Inc., electrostatic precipitators. Tests show Unit #5 to be in compliance.

11/21/86

DER AIR PERMIT INVENTORY SYSTEM
SOUTHWEST DISTRICT HILLSBOROUGH COUNTY

40/29/0040/05
PAGE 1

PLANT 0040 TECO GANNON PLANT PRIVATE FILE STATUS NEW ADD
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 05 CONST PATSN OPER PATSN A029-47728
ISS= / / EXP= / / ISS=01/27/82 EXP=01/25/87
UNIT #5 COAL FIRED BOILER
SOURCE= IPP=40 COMM.PNTS. -
STACK HT= 306FT DIAM=14.6FT TEMP= 303F FLOW= 763800CFM PLUME= 0FT
BOILER CAP= 2284MBTU/HR FUEL FOR SPACE HEAT= .0%
OPERATING PROCESS RATES YOR=85 RAW MATERIAL= 93 OTHER
PRODUCT 0 OTHER FUEL 93 TN/BRN
NORMAL COND. DEC-FEB=27% MAR-MAY=29% JUN-AUG=32% SEP-NOV=12%
PERMIT SCHEDULE 24HRS/DAY 7DAYS/WK 52WKS/YR
AOR FOR 04/01/86 19HRS/DAY 6DAYS/WK 42WKS/YR
RACT
COMPLIANCE NEDS=1 QRC=2 UPDATE08/86 SCHED. / / UPDATED / /
PERMIT=1 YOR=86 INSPECTED 07/17/86 NEXT DUE 07/17/87

SCC'S

1-01-002-01 YOR=85 SOURCE=B RATE= 481926 MAX= 93.000 TN/BRN
FUEL CONT SO2=1.17% ASH= 7.2% 149MBTU FYOR=85 CONFID=2
TONS OF COAL BURNED

POLLUTANTS MONITORED

TSP 11101 NORM= 228.00 EST/METH= 299/1 MAX.ALW= 999 TNS/YR.
CTLS.PRI= 10 SEC= 0 EFF=99.8% NEXT DUE 07/30/87 TEST/FREQ=1
TESTED 07/17/86 AGENCY=2 REG=650(2)(C) COMPLIANCE=1
EMITTED= 91.12 ALLOWED= 227.80LBS/HR OP-RATE= 2278 MBTU/P
VE 11204 NORM= EST/METH= / MAX.ALW= TNS/YR.
CTLS.PRI= 10 SEC= 0 EFF=99.0% NEXT DUE 07/30/87 TEST/FREQ=1
TESTED 07/17/86 AGENCY=3 REG=600(5)(B) COMPLIANCE=1
EMITTED= 600.01 ALLOWED= 600.20LBS/HR OP-RATE= 2278 MBTU/P
CO 42101 NORM= 0.00 EST/METH= 145/3 MAX.ALW= 0 TNS/YR.
CTLS.PRI= 0 SEC= 0 EFF= 0.0% NEXT DUE / / TEST/FREQ=
SO2 42401 NORM= 5482.00 EST/METH= 10756/4 MAX.ALW= 24011 TNS/YR.
CTLS.PRI= 0 SEC= 0 EFF= 0.0% NEXT DUE 07/30/87 TEST/FREQ=1
TESTED 07/17/86 AGENCY=2 REG=600(5)(B) COMPLIANCE=1
EMITTED= 4328.20 ALLOWED= 5467.20LBS/HR OP-RATE= 2278 MBTU/P
NOX 42603 NORM= 0.00 EST/METH= 8193/3 MAX.ALW= 0 TNS/YR.
CTLS.PRI= 0 SEC= 0 EFF= 0.0% NEXT DUE / / TEST/FREQ=
TESTED 00/00/78 AGENCY= REG= COMPLIANCE=
EMITTED= 12.35 ALLOWED= 0.00LBS/HR OP-RATE= 0 OTHER

DER AIR PERMIT INVENTORY SYSTEM

40/29/0040/05

11/21/86

SOUTHWEST DISTRICT HILLSBOROUGH COUNTY

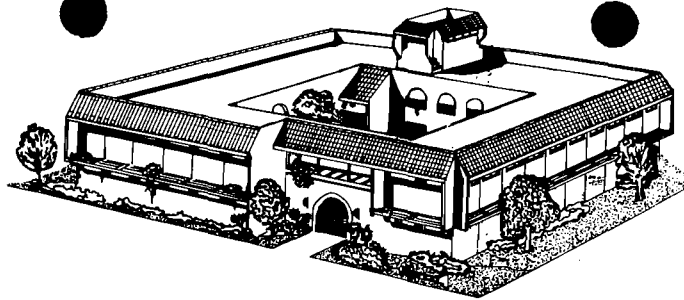
PAGE 2

NCH 43102 NORM= . EST/METH= 17/3 MAX.ALW= TNS/YR.
CTLS.PRI= 0 SEC= 0 EFF= 0.0% NEXT DUE / / TEST/FREQ=0

HILLSBOROUGH COUNTY
ENVIRONMENTAL PROTECTION

COMMISSION

RODNEY COLSON
RON GLICKMAN
PAM IORIO
RUBIN E. PADGETT
JAN KAMINIS PLATT
JAMES D. SELVEY
PICKENS C. TALLEY II



ROGER P. STEWART
DIRECTOR

1900 - 9th AVE
TAMPA, FLORIDA 33805

TELEPHONE (813) 272-5960

D. E. R.

DEC 04 1986

SOUTH WEST DISTRICT
TAMPA

MEMORANDUM

Date ~~November 14, 1986~~

To Tom John thru Bill Thomas, DER

From Victor San Agustin thru Jerry Campbell, ETC

Subject Permit Renewal for TECO Gannon Unit No. 5

Compliance tests performed on Unit #5 show the following actual emissions. Furthermore, sulfur variability studies performed in Quarter IV, 1985 and Quarter III, 1986 showed $S^2/0.10^2$ 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 (Sootblowing) Lbs/MMBTU		PM (Non- sootblowing Lbs/MMBTU		SO2 Lbs/MMBTU		Opacity %	
Actual	Allowable	Actual	Allowable	Actual	Allowable	Actual	Allowable
0.04	0.1	0.05	0.3	1.9	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%; and 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), F.A.C.].

3. The maximum allowable SO₂ emission rate from this unit shall be 2.4 pounds of SO₂ 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 SO₂ 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 ^{APRIL 15} June 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~~ ^{One} copies of test data shall be submitted to the Air Section of the Hillsborough County Environmental Protection Commission within 45 days of such testing.
5. 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 submitted previously. 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 Hillsborough County Environmental Protection Commission and the Department of Environmental Regulation shall each receive a copy of this report. *and one copy of test data shall be submitted to the Southwest District Dept of Env Reg.*
6. 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.].
7. 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.*The report shall be submitted to the Southwest District, Dept of Env Reg, with a copy*
~~Two copies of all~~ ^{the} reports shall be submitted ~~only~~ to the Hillsborough County Environmental Protection Commission.

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

A. Process System Performance Parameters:

- (1) Source Designator: Gannon Unit No. 5
- (2) Design Fuel Consumption Rate at Maximum Continuous Rating: 93.4 tons coal/hour
- (3) Operating Pressure: 2250 psi
- (4) Operating Temperature: 1000°F
- (5) Maximum Design Steam Capacity: 1,660,000 pounds per hour

B. Particulate Control Equipment Data:

- (1) Control Equipment Designator: 2 Electrostatic Precipitators
- (2) Electrostatic Precipitators Manufacturer: Reasearch Cottrell, Inc.
- (3) Model Numbers: G.O. 3129 G.O. 2791
- (4) Design Flow Rates: 820,000 ACFM 700,000 ACFM
- (5) Primary Voltage: 430-480 volts 430-460 volts
- (6) Primary Current: 241 amps 152 amps
- (7) Secondary Voltage: 53.5 kilovolts 53.5 kilovolts
- (8) Secondary Current: 1500 milliamps 1000 milliamps
- (9) Design Efficiency: 99.78% 98.5%
- (10) Pressure Drop: 0.5 inches of H2O(ave) 0.5 inches of H2O(ave)
- (11) Static Pressure: +15 inches of H2O(ave) +15 inches of H2O(ave)
- (12) Rapper Frequency: 1/2.0 minutes(ave) 1/2.0 minutes(ave)
- (13) Rapper Duration: Impact Impact
- (14) Gas Temperature: 293°F (ave) 289°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.

~~Weekly:~~

Inspect penthouse pressurizing fan filters. Replace as needed.

Observe operation of all rappers and vibrators. ~~Check rapper and transformer/rectifier controls.~~

Monthly

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.].

9. 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.

10. ~~Four applications~~ to renew this operating permit shall be submitted to the Hillsborough County Environmental Protection Commission at least 60 days prior to the expiration date of this permit.

An original application...

Southwest
District
Dept. of
Environ Reg.,

and a copy, with original
seals and signatures shall
be submitted to the...

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.: A029-125993
County: Hillsborough
Expiration Date: 5yrs
Project: Gannon Station
Unit No. 5

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 2284 MMBTU/hr coal fired steam generator designated as Unit No. 5. This "wet" bottom boiler was manufactured by Riley Stoker Corporation and is of the opposed firing type. The generator has a nameplate capacity of 239.4 MW. Particulate emissions are controlled by two Research-Cottrell, Inc. Electrostatic Precipitators operating in parallel.

Location: Port Sutton Rd., Tampa

UTM: 17-360.1E

3087.5N

NEDS NO: 0040

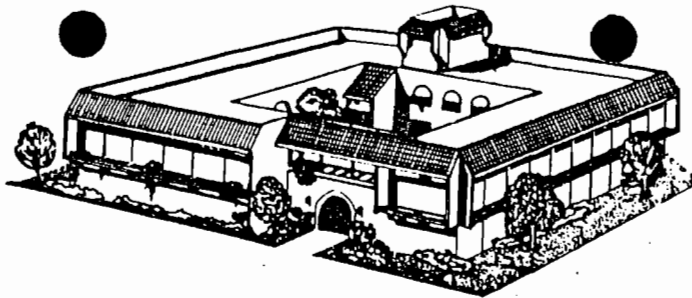
Point ID: 05

Replaces Permit No.: A029-47728

HILLSBOROUGH COUNTY
ENVIRONMENTAL PROTECTION

COMMISSION

RODNEY COLSON
RON GLICKMAN
PAM IORIO
RUBIN E. PADGETT
JAN KAMINIS PLATT
JAMES D. SELVEY
PICKENS C. TALLEY II



ROGER P. STEWART
DIRECTOR
1900 - 9th AVE
TAMPA, FLORIDA 33605
TELEPHONE (813) 272-5960



JAN 02 1987

MEMORANDUM

SOUTH WEST DISTRICT
TAMPA

Date ~~November 14, 1986~~

To Tom John thru Bill Thomas, DER

From Victor San Agustin thru Jerry Campbell, ETC

Subject Permit Renewal for TECO Gannon Unit No. 5

VSA Jc

Compliance tests performed on Unit #5 show the following actual emissions. Furthermore, sulfur variability studies performed in Quarter IV, 1985 and Quarter III, 1986 showed $S^2/0.10^2$ 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.

Non- PM (Sootblowing) Lbs/MMBTU		PM (Non- sootblowing Lbs/MMBTU		SO ₂ Lbs/MMBTU		Opacity %	
Actual	Allowable	Actual	Allowable	Actual	Allowable	Actual	Allowable
0.04	0.1	0.05	0.3	1.9	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%; and 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), F.A.C.]; and excess emissions otherwise allowed under section 17-2.250(1)-(3), F.A.C.

3. The maximum allowable SO2 emission rate from this unit shall be 2.4 pounds of SO2 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 SO2 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 ~~June 19~~^{April 15}, 1986 or with in 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 the Air Section of the Hillsborough County Environmental Protection Commission within 45 days of such testing.
5. 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 submitted previously. 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 Hillsborough County Environmental Protection Commission and the Department of Environmental Regulation shall each receive a copy of this report.
6. 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.].
7. 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.

{ Two copies of all reports shall be submitted only to the Hillsborough County Environmental Protection Commission.

1 to each agency

One to each agency

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

A. Process System Performance Parameters:

- (1) Source Designator: Gannon Unit No. 5
- (2) Design Fuel Consumption Rate at Maximum Continuous Rating: 93.4 tons coal/hour
- (3) Operating Pressure: 2250 psi
- (4) Operating Temperature: 1000°F
- (5) Maximum Design Steam Capacity: 1,660,000 pounds per hour

B. Particulate Control Equipment Data:

- (1) Control Equipment Designator: 2 Electrostatic Precipitators
- (2) Electrostatic Precipitators Manufacturer: Reasearch Cottrell, Inc.
- (3) Model Numbers: G.O. 3129 G.O. 2791
- (4) Design Flow Rates: 820,000 ACFM 700,000 ACFM
- (5) Primary Voltage: 430-480 volts 430-460 volts
- (6) Primary Current: 241 amps 152 amps
- (7) Secondary Voltage: 53.5 kilovolts 53.5 kilovolts
- (8) Secondary Current: 1500 milliamps 1000 milliamps
- (9) Design Efficiency: 99.78% 98.5%
- (10) Pressure Drop: 0.5 inches of H2O(ave) 0.5 inches of H2O(ave)
- (11) Static Pressure: +15 inches of H2O(ave) +15 inches of H2O(ave)
- (12) Rapper Frequency: 1/2.0 minutes(ave) 1/2.0 minutes(ave)
- (13) Rapper Duration: Impact Impact
- (14) Gas Temperature: 293°F (ave) 289°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 ~ not required~~
Secondary current

Inspect system controls. Make minor adjustments as needed.

Monthly Weekly:

Inspect penthouse pressurizing fan filters. Replace 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.].

9. 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.
10. Four ^{copies of the} applications to renew this operating permit shall be submitted to the Hillsborough County Environmental Protection Commission at least 60 days prior to the expiration date of this permit.

→ an original + 3 copies

APPLICATION TRACKING SYSTEM

10/13/86

APPL NO:125993

APPL RECVD:10/10/86 TYPE CODE:A0 SUBCODE:06 LAST UPDATE:10/13/86

DER OFFICE RECVD:TPA DER OFFICE TRANSFER TO:___ APPLICATION COMPLETE:___/___/___

DER PROCESSOR:~~ESTLER~~ JOHN ~~THE~~

APPL STATUS:AC DATE:10/10/85 (ACTIVE/DENIED/WITHDRAWN/EXEMPT/ISSUED/GENERAL)

RELIEF:___ (SSAC/EXEMPTIONS/VARIANCE)

(Y/N) N MANUAL TRACKING DISTRICT:40 COUNTY:29
(Y/N) N DNR REVIEW REQD? LAT/LONG:27.54.25/82.25.21
(Y/N) N PUBLIC NOTICE REQD? BASIN-SEGMENT:___
(Y/N) N GOV BODY LOCAL APPROVAL REQD? COE #:_____
(Y/N) Y LETTER OF INTENT REQD? (I/ISSUE O/DENY) ALT#:_____

PROJECT SOURCE NAME:TAMPA ELECTRIC CO.
STREET:PORT SUTTON ROAD CITY:TAMPA

STATE:FL ZIP:_____ PHONE:_____

APPLICATION NAME:TAMPA ELECTRIC CO.
STREET:P.O. BOX 111 CITY:TAMPA

STATE:FL ZIP:33601 PHONE:013-228-4111

AGENT NAME:A. SPENCER AUTRY
STREET:P.O. BOX 111 CITY:TAMPA

STATE:FL ZIP:33601 PHONE:813-228-4111

FEE #1 DATE PAID:10/10/86 AMOUNT PAID:00500 RECEIPT NUMBER:00105611

B DATE APPLICANT INFORMED OF NEED FOR PUBLIC NOTICE - - - ___/___/___
C DATE DER SENT DNR APPLICATION/SENT DNR INTENT - - - ___/___/___
D DATE DER REQ. COMMENTS FROM GOV. BODY FOR LOCAL APP. - - - ___/___/___
E DATE #1 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - ___/___/___
E DATE #2 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - ___/___/___
E DATE #3 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - ___/___/___
E DATE #4 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - ___/___/___
E DATE #5 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - ___/___/___
E DATE #6 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - ___/___/___
F DATE GOVERNING BODY REQUESTED SURVEY RESULTS/REPORTS - - - ___/___/___
G DATE FIELD REPORT WAS REQ--REC - - - ___/___/___
H DATE DNR REVIEW WAS COMPLETED - - - ___/___/___
I DATE APPLICATION WAS COMPLETE - - - ___/___/___
J DATE GOVERNING BODY PROVIDED COMMENTS OR OBJECTIONS - - - ___/___/___
K DATE NOTICE OF INTENT WAS SENT--REC TO APPLICANT - - - ___/___/___
L DATE PUBLIC NOTICE WAS SENT TO APPLICANT - - - ___/___/___
M DATE PROOF OF PUBLICATION OF PUBLIC NOTICE RECEIVED - - - ___/___/___
N WAIVER DATE BEGIN--END (DAY 90) - - - ___/___/___

COMMENTS:

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 105611

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Jampa Electric Date 10-10-86
Address P.O. Box 111 Jampa Dollars \$ 500.00
Applicant Name & Address same
Source of Revenue Renewal of permit A029-47728
Revenue Code 001032 0 Application Number A029-125993
ck 67723 By Alvin King

COMPANY NAME

Secannon Unit #

39
Processor

File Number A029-125993

PERMIT APPLICATION STATUS SHEET

Type of permit applied for Air Operation

County Hillsborough

Date Recieved 10/10/86

P.E. seal & signature
Check
No check
Letter of corp. standing

CLOCK DAYS		DATE TASK COMPLETED	INITIALS
3	Logging by Sec'y	<u>1-5-87</u>	<u>WCRD</u>
5	Review by Sec. head and transfer to permitting Engineer		
28	Completeness Review		
	request additional info *		
	information received *		
	Public Notice Published * (for Air Construction only)		
55	Letter of Intent sent to * Supervisor		
60	Letter of Intent submitted * to District Manager		
75	Intent to issue/deny mailed *		
80	Permitting Eng'r submit finished permit package & recommendations to supervisor		
83	Permit Package to Dist. Engr.	<u>1/6/87</u>	<u>WCRD</u>
85	Permit Package to Dist. Manager	<u>1/6/87</u>	<u>WCRD</u>
90	Final Issuance/denial		

*If needed, If not indicate by N/A



June 2, 1986

Mr. Bill Thomas
Florida Department of
Environmental Regulation
District Office
7601 Highway 301 North
Tampa, Florida 33610-9544

Re: Tampa Electric Company
Administrative Changes to
Air Permits

Dear Mr. Thomas:

During a recent review of Tampa Electric Company's air permits, administrative inconsistencies were identified that have lead to hardships on us that we feel are not intended by the Department. As shown on the attachment, the inconsistencies involve stack test scheduling, notifications and reporting requirements contained in older air permits. The requested modifications reflect recent changes in Department regulations which depart from previous Department rules or policies.

In order to communicate our concerns and get feedback from the Department, members of my staff met with Mr. Jim Estler of your staff and Mr. Jerry Campbell of the Hillsborough County Environmental Protection Commission on May 29, 1986. Based on this meeting, it is our understanding that neither Mr. Estler nor Mr. Campbell are opposed to modifying the applicable air permits to provide consistency as outlined to them.

Tampa Electric Company respectfully requests that the air permits listed on the attachment be modified to reflect consistent administrative conditions as stated. The requested modification will not change our environmental limits, they only clarify the conditions and time frames for compliance related reports.

We would greatly appreciate an expeditious review of our request for permit modifications, especially as they relate to Units 4, 5 and 6 at Gannon Station which will required compliance testing or excess opacity report submittal in the near future.

D. E. R.

JUN 04 1986

SOUTH WEST DISTRICT
TAMPA

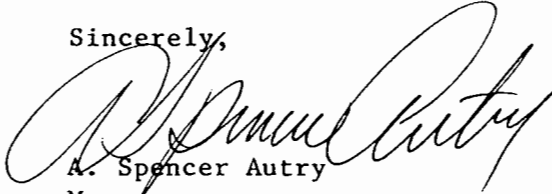
Mr. Bill Thomas

June 2, 1986

Page 2

Thank you for your cooperation, and, please call me if you have any questions.

Sincerely,



A. Spencer Autry
Manager
Environmental Planning

ASA/jst/004/EE1

Attachment

cc: Jim Estler, FDER
Jerry Campbell, HCEPC

INCONSISTENCIES IN ADMINISTRATIVE PROCEDURES

DER AIR PERMITS
TAMPA ELECTRIC COMPANY (TEC)

The following modifications will provide consistent reporting and administrative requirements for the two major reports required in TEC's air permits:

1. Specify that all annual compliance testing should be done within a 90 day period prior to the specified annual test date. (The regulations require annual test during Fiscal year - October 1 to September 30.)

The permits below either do not address the 90 day test window, or are more stringent than 90 days:

<u>Source</u>	<u>Permit Number</u>	<u>Specific Condition</u>
<u>Hookers Point</u>		
Unit 1	A029-47726	1
Unit 2	A029-47725	1
Unit 3	A029-47724	1
Unit 4	A029-47723	1
Unit 5	A029-47722	1
Unit 6	A029-47721	1
 <u>F.J. Gannon</u>		
Unit 4	A029-80043	4
Unit 5	A029-47728	1
Unit 6	A029-47727	1
Combustion Turbine 1	A029-85099	1
Fly Ash Silo 1	A029-80048	1
Fly Ash Silo 2	A029-80046	1
Economiser Silo	A029-87409	1
 <u>Big Bend</u>		
Unit 1	A029-63296	1
Combustion Turbine 1	A029-85100	1

2. Specify that all compliance test notifications be non-written notifications pursuant to 17-2.700(2)(a)5:

The permits below contain a written notification requirement:

<u>Source</u>	<u>Permit Number</u>	<u>Specific Condition</u>
<u>F.J. Gannon</u>		
Combustion Turbine 1	A029-85099	4
Fly Ash Silo 1	A029-80048	5
Fly Ash Silo 2	A029-80046	3
Economiser Ash Silo	A029-87409	3

Big Bend

Combustion Turbine 1	A029-85100	5
----------------------	------------	---

3. Specify that all compliance test submittals shall be within 45 days as required in 17-2.700(7).

The permits below contain a test submittal date more stringent than 45 days.

<u>Source</u>	<u>Permit Number</u>	<u>Specific Condition</u>
<u>Hookers Point</u>		
Unit 1	A029-47726	1
Unit 2	A029-47725	1
Unit 3	A029-47724	1
Unit 4	A029-47723	1
Unit 5	A029-47722	1
Unit 6	A029-47721	1

F.J. Gannon

Unit 5	A029-47728	1
Unit 6	A029-47727	1

4. Specify that excess emissions refer to 6-minute average opacity.

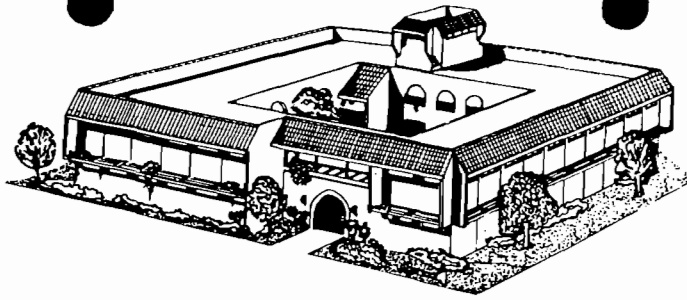
The permits below either do not address the averaging time or specify a 1-minute average:

<u>Source</u>	<u>Permit Number</u>	<u>Specific Condition</u>
<u>F.J. Gannon</u>		
Unit 4	A029-80043	7
<u>Big Bend</u>		
Unit 1	A029-63296	6

HILLSBOROUGH COUNTY
ENVIRONMENTAL PROTECTION

COMMISSION

RODNEY COLSON
RON GLICKMAN
PAM IORIO
RUBIN E. PAOGETT
JAN KAMINIS PLATT
JAMES D. SELVEY
PICKENS C. TALLEY II



ROGER P. STEWART
DIRECTOR

1900 - 9th AVE
TAMPA, FLORIDA 33605

TELEPHONE (813) 272-5960

MEMORANDUM

D. E. R.

Date June 12, 1986

To Jim Estler

From Jerry Campbell *Jc*

Subject: TECO Permit Amendments

[Handwritten signature]
JUN 16 1986

**SOUTH WEST DISTRICT
TAMPA**

Having reviewed TECO's requests in Spencer Autry's letter of June 2, 1986 to Bill Thomas, I recommend approval of the following amendments:

Gannon Unit 4 (A029-80043)

Change Specific condition #4 to read:

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 May 30, 1984 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.

Change specific condition #7 to read:

7. A report shall be submitted to both the Department of Environmental Regulation and the 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 emission 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.]. This report shall be submitted in duplicate to the Hillsborough County Environmental Protection Commission.

Gannon Unit 5 (A029-47728)

Change specific condition #1 to read:

1. 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 July 29, 1981 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 the test report shall be submitted to the Air Section of the Hillsborough County Environmental Protection Commission within 45 days of testing.

Gannon Unit #6 (A029-47727)

Change Specific condition #1 to read:

1. 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 July 29, 1981 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 the test report shall be submitted to the Air Section of the Hillsborough County Environmental Protection Commission within 45 days of testing.

Hookers Point Unit #1 (A029-47726)

Change specific condition #1 to read:

1. 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 January 27, 1982 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 the test report shall be submitted to the Air Section of the Hillsborough County Environmental Protection Commission within 45 days of testing. A fuel analysis may be submitted in lieu of stack testing for sulfur dioxide.

Hookers Point Unit #2 (A029-47725)

Change specific condition #1 to read:

1. 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 January 27, 1982 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 the test report shall be submitted to the Air Section of the Hillsborough County Environmental Protection Commission within 45 days of testing. A fuel analysis may be submitted in lieu of stack testing for sulfur dioxide.

Hookers Point Unit #3 (A029-47724)

Change specific condition #1 to read:

1. 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 January 27, 1982 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 the test report shall be submitted to the Air Section of the Hillsborough County Environmental Protection Commission within 45 days of testing. A fuel analysis may be submitted in lieu of stack testing for sulfur dioxide.

Hookers Point Unit #4 (A029-47723)

Change specific condition #1 to read:

1. 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 January 27, 1982 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 the test report shall be submitted to the Air Section of the Hillsborough County Environmental Protection Commission within 45 days of testing. A fuel analysis may be submitted in lieu of stack testing for sulfur dioxide.

Hookers Point Unit #5 (A029-47722)

Change specific condition #1 to read:

1. 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 January 27, 1982 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 the test report shall be submitted to the Air Section of the Hillsborough County Environmental Protection Commission within 45 days of testing. A fuel analysis may be submitted in lieu of stack testing for sulfur dioxide.

Hookers Point Unit #6 (A029-47721)

Change specific condition #1 to read:

1. 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 January 27, 1982 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 the test report shall be submitted to the Air Section of the Hillsborough County Environmental Protection Commission within 45 days of testing. A fuel analysis may be submitted in lieu of stack testing for sulfur dioxide.

Gannon Combustion Turbine #1 (A029-85099)

Change specific condition #1 to read:

1. Test the emissions for the following pollutant(s) at intervals of 12 months from the date March 15, 1984, or within a ninety (90) day period prior to this date, and submit 2 copies of test data to the Air Section of the Hillsborough County Environmental Protection Commission office within forty five days of such testing [Section 17-2.700 (2), Florida Administrative Code, (F.A.C.)].

- | | |
|---|---|
| <input type="checkbox"/> Particulates | <input type="checkbox"/> Sulfur Oxides |
| <input type="checkbox"/> Fluorides | <input type="checkbox"/> Nitrogen Oxides |
| <input checked="" type="checkbox"/> Opacity | <input type="checkbox"/> Hydrocarbons |
| | <input type="checkbox"/> Total Reduced Sulfur |

*Fuel analysis may be submitted for required sulfur dioxide emission test.

Change specific condition #4 to read:

4. The Hillsborough County Environmental Protection Commission shall be notified 15 days prior to compliance testing.

Gannon Fly Ash Silo #1 - 4 (A029-80048)

Change specific condition #1 to read:

1. Compliance with the opacity standard set forth below shall be demonstrated by conducting 30 minute visible emission tests as units #3, #2 & #1 are converted to coal and begin utilizing this silo. By November 15, 1984, 60 days prior to the expiration of construction permit #AC29-41941, a visible emission test shall be submitted while loading the silo from Units #3 & #4. By January 15, 1986, 60 days prior to the expiration of construction permit A029-41942, a visible emission test shall be submitted while loading the silo from Units #2, #3 & #4. By January 15, 1987, 60 days prior to the expiration of construction permit AC29-41943, a visible emission test shall be submitted while loading the silo from Unit #1 and two of the remaining 3 units. Thereafter, visible emissions tests shall be conducted while loading the silo from 3 of the 4 units at 12 month intervals. Tests can be conducted within a ninety (90) day period prior to the dates specified above.

Change specific condition #5 to read:

5. The Hillsborough County Environmental Protection Commission shall be notified 15 days prior to compliance testing.

Gannon Fly Ash Silo #5-6 (A029-80046)

Change specific condition #1 to read:

1. Test the baghouse for visible emissions at intervals of twelve months from the date of November 15, 1983 or within a ninety (90) day period prior to this date. The compliance test shall be conducted using EPA Method #9 (opacity). The Method #9 test interval on this source shall be thirty (30) minutes. Two copies of the test data shall be submitted to the Air Section of the Hillsborough County Environmental Protection Commission within 45 days of testing.

Change specific condition #3 to read:

3. The Hillsborough County Environmental Protection Commission shall be notified 15 days prior to compliance testing.

Gannon Economiser Silo (A029-87409)

Change specific condition #1 to read:

1. Test the baghouse for visible emissions at intervals of twelve months from the date of December 4, 1983 or within a ninety (90) day period prior to this date. The compliance test shall be conducted using EPA Method #9 (opacity). The Method #9 test interval on this source shall be thirty (30) minutes. Two copies of the test data shall be submitted to the Air Section of the Hillsborough County Environmental Protection Commission within 45 days of testing.

Page 6

Change specific condition #2 to read:

2. The Hillsborough County Environmental Protection Commission shall be notified 15 days prior to compliance testing.

If you have any questions concerning the contents of this memorandum, please contact me.

JC/ch

CH2/16

HILLSBOROUGH COUNTY ENVIRONMENTAL PROTECTION COMMISSION

file

INSPECTION REPORT EXECUTIVE SUMMARY

PLANT NAME TECO - GANNON NEDS 040 DATE/TIME 7/25/84 3:00 - 4:15

PLANT LOCATION U.S. 41 South # OF NEDS POINTS 11

PROCESS DESCRIPTION Boiler Unit 1-6 including precipitators and other operations such as fly ash handling/storage, coal yard an economizer ash silo, and fly ash silos (all under permits)

COMPLIANCE VERIFICATION ENFORCEMENT (4) PERMIT REVIEW OTHER (1) Type II on 03

PERSONS CONTACTED-TITLE _____

NEDS POINTS CHECKED 01-11 NEDS POINTS IN COMPLIANCE 01-11 NEDS POINTS IN VIOLATION _____

SUMMARY OF FINDINGS Boiler units 1 thru 5 was audited by visiting and collecting various operating parameter data (see attached report). Unit # 6 was down and visited by inspection. The load on unit # 3 was being gradually increased for testing (precipitator efficiency by Combustion Engineering). Precipitator # 4 was inspected with voltages ranging from 210-350 volt AC. Due to time constraints the remaining precipitators were not inspected. Mr. Smith indicated the new precipitator was to be installed on # 1 and # 2 during their conversion to coal fuel.

The following data on # 2 unit was used as a guideline for inspection

125 MW → 1257 MM BTU/HR

Fuel - # 6 fuel oil

Steam flow 950 K #/HR

Steam temp - 1200°F

press - 1580 psig

D. E. R.

INSPECTION COMMENTS FOR APIS (LIMIT 50 SPACES)

AUG 30 1984

SOUTH WEST DISTRICT TAMPA

INSPECTOR'S SIGNATURE A. L. Casey

HILLSBOROUGH COUNTY ENVIRONMENTAL PROTECTION COMMISSION
ANNUAL OPERATING REPORT

D. E. R.

Representing Calendar Year 1984
Date Submitted: _____

MAR 25 1985

SECTION I - GENERAL INFORMATION

SOUTH WEST DISTRICT
TOWN

Plant, Institution or Establishment Name: _____
Plant Address: _____

Telephone: () _____
Street City State Zip

Person to Contact Regarding This Report _____ Title _____
Mailing Address: _____

Street City State Zip

Actual Operating Hours: _____ hrs/day _____ days/wk _____ wks/yr

SECTION II - FUEL COMBUSTION FOR GENERATION OF HEAT OR STEAM

Source Code	Type of Fuel a	Quantity c X 1,000	Annual Consumption b				Hourly Consumption		Heat Content BTU/Quan	Percent Sulfur d	Percent Ash d
			Percent Distribution by Season				Maximum	Average			
			Spring March/ May	Summer June/ Aug	Fall Sept/ Nov	Winter Dec/ Feb					
Gan 5	Bitum Coal	501	30.13	30.25	15.98	23.64	93.4	75.7	12,325	1.24	7.75
Gan 6	Bitum. Coal	809	13.26	29.75	32.05	24.94	151.4	119.7	12,480	1.18	7.58
GT	No. 2 Oil	133	11.98	26.55	17.97	43.50	1,885	1,111	19,468	0.37	NA

- Coke, bituminous, anthracite, or lignite coal No. 1, 2, 3, 4, 5, or 6 Fuel Oil, Nat. Gas, LPG; Refinery or Coke Oven Gas Etc. Indicate if two or more fuels are burned in the same boiler and provide all data pertinent to each fuel type.
- Fuel Data Reported on 'as burned' Basis
- Solid Fuel: Tons, Liquid Fuel: Gals.: Gaseous Fuel: 1000 ft³
- If unknown, please give name and address of fuel supplier.

COMPANY NAME

Jampa Electric Company

1-27-82

RRG ~~STR~~

Processor

Bannon - Boiler # 5

File Number A029-47728

PERMIT APPLICATION STATUS SHEET

Type of permit applied for Air Operation

County Willsborough

Date Received 9/15/81

P.E. seal & signature

Check

No check

Letter of corp. standing

CLOCK
DAYS

DATE TASK COMPLETED

INITIALS

- 3 Logging by Sec'y
- 5 Review by Sec. head and transfer to permitting Engineer
- 28 Completeness Review
 - request additional info *
 - information received *
 - Public Notice Published * (for Air Construction only)
- 55 Letter of Intent sent to * Supervisor
- 60 Letter of Intent submitted * to District Manager
- 75 Intent to issue/deny mailed *
- 80 Permitting Eng'r submit finished permit package & recommendations to supervisor
- 83 Permit Package to Dist. Engr.
- 85 Permit Package to Dist. Manager
- 90 Final issuance/denial

9/21/81

RK

11-3-81

SW

1-27-82

RK

*If needed, If not indicate by N/A

F.J. GANNON STATION - UNIT 5

Operation and Maintenance Plan For The Processing System and Particulate Control/Collection Systems

Introduction

F.J. Gannon Station is owned and operated by Tampa Electric Company. The plant is located on the eastern shore of Hillsborough Bay at Port Sutton. The plant consists of six steam electric generating units. Units 1 through 4 are oil fired while Units 5 and 6 fire coal.

Unit 5 was placed in service in 1965 with a generator nameplate capacity of 239.4 MW. The boiler was manufactured by the Riley Stoker Corporation and is of the "wet" bottom, opposed firing type. Boiler exhaust gases pass through electrostatic precipitators prior to discharge through a 306' high stack.

Process System Performance Parameters

The Unit 5 boiler burns low sulfur pulverized coal. The design fuel consumption at 100% rating is 93.4 tons per hour. Actual fuel input is monitored on a daily basis.

The maximum design steam capacity of the boiler is 1,660,000 pounds per hour. Steam flow is recorded on a continuous basis.

Particulate Control Equipment Data

Gannon Unit 5 is equipped with two electrostatic precipitators for the control of particulate matter emissions. The precipitators, model numbers G.O. 3129, and G.O. 2791 were manufactured by Research Cottrell Incorporated. Flyash collected by the precipitators is either reinjected into the boiler or pneumatically transported to a storage silo for sale. Important design information and data applicable to the particulate control system are listed below:

	<u>G.O. 3129</u>	<u>G.O. 2791</u>
Design Flow Rate	820,000 cfm	700,000 cfm
Primary Voltage	430-480 volts	430-460 volts
Primary Current	241 amps	152 amps
Secondary Voltage	53.5 volts	53.5 volts
Secondary Current	1500 milliamps	1000 milliamps
Design Efficiency	99.78%	98.5%
Pressure Drop	0.5 inches of H ₂ O	.5 inches of H ₂ O
Static Pressure	±15 inches of H ₂ O	±15 inches of H ₂ O
Rapper Frequency	1/2 minutes	1/2 minutes
Rapper Duration	Impact	Impact
Temperature	293° F	289° F

Particulate Control Equipment Data Performance Parameters

Precipitator performance parameters are recorded routinely on a daily basis. The information recorded includes primary voltage, primary current, secondary current, and spark rate. This information is logged for each section of the precipitator.

Maintenance and Inspection Schedules

All generating units of the Tampa Electric Company system are regularly scheduled for periodic maintenance. The schedule for planned maintenance outages is affected by system load and forced outage requirements.

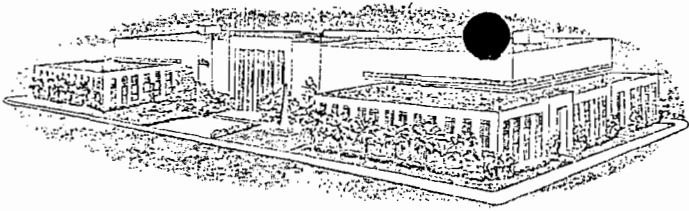
The Unit 5 particulate control system receives regular preventive maintenance. The following preventive maintenance procedures are performed on a weekly basis:

- Inspect penthouse pressurizing fan filters. Replace as needed.
- Observe operation of all rappers and vibrators weekly. Check lift of rappers, intensity of vibrators and sequence of operation.

The following preventive maintenance procedures are performed on a daily basis:

- Inspect system controls. Make minor adjustments as needed.
- Check operation of inlet duct distribution plate rappers.

Should these procedures indicate repairs are necessary, maintenance job requests are initiated.



MEMORANDUM

Date August 10, 1978

To P. David Puchaty, District Manager, SW District DER

From Joe Griffiths, Environmental Protection Commission

Subject: TECO Permits: Hooker's Point 4 & 6, Gannon 1 & 5

Each facility showed compliance during the latest stack test. The reason each source was permitted till July, 1981 is because: All sources are located in the non-attainment area for TSP and may be contributing to the overall problem. If that is the case some changes in operating time, performance standards, start-up procedures, etc. may be required and the changes could be incorporated into the next permit before the January 1, 1982 deadline.

cc: Files

JG/dj

*to Joe Griffiths agreed
five years permits after a
telephone conversation 9/19/78
Wm A Williams*

D.E.R.

AUG 14 1978

SOUTHWEST DISTRICT
TAMPA

File: Hills Co - AP

TWB



POST OFFICE BOX 111 TAMPA, FLORIDA 33601 TELEPHONE (813) 879-4111

July 13, 1981

Air Engineering Department
Hillsborough County Environmental
Protection Commission
1900 9th Avenue
Tampa, Florida 33605

RE: Stack Emissions Test -
Sootblowing Conditions
Gannon No. 5
Tampa Electric Company

Gentlemen:

Enclosed please find two (2) copies of a stack test report for an emissions compliance test performed on April 29, 1981.

As stated in the Summary of Results, the average particulate emission rate for three test runs during sootblowing conditions was 0.02 lbs. per million BTU, which is in compliance with the Florida Administrative Code, Chapter 17-2, Limits of 0.3 lbs. per million BTU.

Included in the Summary of Results, the average sulfur dioxide emission rate, based on fuel analysis, was 2.12 lbs. per million BTU which is in compliance with the Florida Administrative Code, Chapter 17-2, limit of 2.4 lbs. per million BTU.

Also included is a process statement and a visible emission report. If you have any questions, please call.

Yours truly,

J.L. Williams
Manager
Environmental Planning

Enclosure

cc: D. Williams, FDER

D.E.R.

JUL 15 1981


SOUTHWEST DISTRICT
TAMPA



POST OFFICE BOX 111 TAMPA, FLORIDA 33601 TELEPHONE (813) 879-4111

March 5, 1981

Air Engineering Department
Hillsborough County Environmental
Protection Commission
1900 9th Avenue
Tampa, Florida 33605



D.E.R.

MAR 9 1981

RE: Stack Emission Test
Gannon Unit No. 5
Tampa Electric Company

SOUTHWEST DISTRICT
TAMPA

Gentlemen:

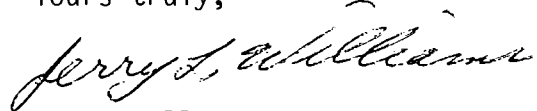
Enclosed please find two (2) copies of a stack test report for a compliance test performed on Gannon Unit No. 5 on December 3, 1980.

As stated in the Summary of Results, the average particulate emission rate for three test runs was 0.01 lbs. per million BTU, which is in compliance with Florida Administrative Code, Chapter 17-2.05 (6)(e)(1)(b)2.b of 0.1 lbs. per million BTU.

Included in the Summary of Results, the average sulfur dioxide emission rate from fuel analysis conducted by our Central Testing Laboratory was 1.68 lbs. per million BTU which is in compliance with Florida Administrative Code, Chapter 17-2.05 (6)(e)(1)(b)2.b of 2.4 lbs. per million BTU.

Also included are a process statement and visible emission report. If you have any questions, please call.

Yours truly,



J. L. Williams, P.E.
Manager
Environmental Planning

Enclosure

cc: Dan Williams, FDER



POST OFFICE BOX 111 TAMPA, FLORIDA 33601 TELEPHONE (813) 879-4111

September 5, 1980

Mr. Steve Smallwood, Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Smallwood:

This is to provide notification that Tampa Electric Company plans to begin operations at Gannon Station Units 5 and 6 under the recently approved opacity regulation.

Quarterly stack testing will be performed on these two units. Currently scheduled are Gannon 5 on September 17, 1980 and Gannon 6 on October 15, 1980. Hillsborough County Environmental Protection Commission will be notified of these and subsequent stack tests as is our usual procedure.

Yours truly,

Jerry L. Williams
Manager
Environmental Planning

cc: Ms. Mary Clarke, FDER
Mr. Don Williams, FDER ✓
Mr. Joe Griffiths, HCEPC

File: Hills Co - AP
Bill [Signature]

9-27-78

TECO
Gannon #5

File Number A029-7102

PERMIT APPLICATION STATUS SHEET

Type of permit applied for Air Operation

County Hillsborough

Date Recieved 8-14-78

P.E. seal & signature
Check
No check
Letter of corp. standing

CLOCK
DAYS

DATE TASK COMPLETED

INITIALS

3	Logging by Sec'y	<u>8-16-78</u>	<u>ff</u>
15	Review by Sec. head and transfer to permitting Engineer	<u>8-23-78</u>	<u>zw</u>
28	Completeness Review		
	request additiona info *		
	information received *		
	Public Notice Published * (for Air Construction only)		
55	Letter of Intent sent to * Supervisor		
60	Letter of Intent submitted * to District Manager		
75	Intent to issue/deny mailed *		
80	Permitting Eng'r submit finished permit package & recommendations to supervisor	<u>9-14-78</u>	<u>WAB</u>
83	Permit Package to Dist. Engr.	<u>9-18-78</u>	<u>zw</u>
85	Permit Package to Dist. Manager	<u>9/18/78</u>	<u>zw</u>
90	Final Issuance/denial	<u>9/27/78</u>	<u>RKT</u>

*If needed, If not indicate by N/A

PERMIT WORK SHEET

SOURCE Teco Canyon #5 DATE 9-14-78

COUNTY Hillsborough TYPE PERMIT A029-7102

ACTION	INITIAL WHEN COMPLETED	DATE
--------	------------------------	------

Preliminary Review		
--------------------	--	--

Assigned for Review to		
------------------------	--	--

Review Comments		
-----------------	--	--

I have reviewed the plans and applications submitted and find that the above mentioned source will not reasonably be expected to cause pollution in violation of the Department standards, rules and regulations. I recommend approval of this permit.

Number Assigned		
-----------------	--	--

Permit Issued & Signed		
------------------------	--	--

Permit Logged		
---------------	--	--

Permit Mailed		
---------------	--	--

Data Forms Completed		
----------------------	--	--

Permit Denied		
---------------	--	--

TYPE PERMIT ACTION

DESCRIPTION OF PRIMARY SOURCE

New Source (No related permits)	Boiler	<input checked="" type="checkbox"/>
Renewed or modified permit	Solid Waste (Incinerator)	<input type="checkbox"/>
Point source deleted	Other Combustion	<input type="checkbox"/>
Point source added	Process	<input type="checkbox"/>
New Source replacing old source	Product (Name)	<input type="checkbox"/>

BRIEF DESCRIPTION OF PROCESS

2284 MMBTU coal fired ^{Steam generator} Boiler

OPERATING TIME: _____ HR/D2 _____ Da/Wk _____ Wk/

STACK DATA

OPERATING DATA

Height (FT) _____
 Diam. (FT.) _____
 Temp. (°F) _____
 Flow Rate (CFM) _____
 Plume Height (FT) _____
 Common Stack (Explain) _____

Process Rate _____
 Process Rate _____ TON
 Max Design Rate _____ #/HR
 Combustion (Units) Gal TONS FT
 Rate _____ Unit/HR _____ Unit/
 Heat Content _____ BTU/Gal
 Boiler Capacity _____ BTU/HR
 Max Design Rate _____ Unit/H
 Fuel (Name) _____ SS _____ SA

COMMENTS:

Coal 1.3⁵/₅

SO₂ $\frac{186800 \times .026}{2284} = 2.13$ SO₂/MMBTU

SO₂ 4600^{lb}/hr all SO₂ 2.4 allowable

Test 15P 49^{lb}/hr ^{allow 246} with eff 99.78% 4889 ^{lb} uncat

0.02^{lb}/MMBTU

EMISSIONS

Pollutant	lb/hr		lb/ton Product		lb/10 ³ BTU		Regulation
	Emission	Allowable	Emission	Allowable	Emission	Allowable	
SO ₂	4600	5900					
TSP	49	246					

ACTIVITY Test _____ Allowable _____

SYS FOR ESTIMATE

- Stack Test Results Date _____ Report Received _____
- V. E. Test Date _____ Report Received _____
- Other tests or emission measurement _____
- Material balance of process using engineering knowledge _____
- Emissions calculated using EPA emission factors _____
- Other Method (Describe): _____

SO₂ 11372 T/Y
 TSP 122 T/Y

TECO
TAMPA ELECTRIC COMPANY

POST OFFICE BOX 111 TAMPA, FLORIDA 33601 TELEPHONE (813) 879-4111

July 1, 1977

Mr. Jose Rodriguez
Hillsborough County Environmental
Protection Commission
7402 N. 56th St., Bldg. 500
Tampa, Florida 33617

RE: Operating Permit Application
Gannon Station No. 5 Boiler
Tampa Electric Company

Dear Mr. Rodriguez:

Enclosed please find the original and four (4) copies of an operating permit application for the subject boiler.

Also enclosed please find checks for \$20.00 and \$50.00 payable to Florida Department of Environmental Regulation and Hillsborough County Board of County Commissioners, respectively.

If you have any questions, please call.

Yours very truly,



Alex Kaiser, Director
Power Plant Engineering

Enclosures

RECEIVED

JUL 1 1977

H.C.E.P.C.

D. E. R.

AUG 15 1977

SOUTH WEST DISTRICT
ST. PETERSBURG

TECO
TAMPA ELECTRIC COMPANY

POST OFFICE BOX 111 TAMPA, FLORIDA 33601 TELEPHONE (813) 879-4111

July 14, 1977

RECEIVED
JUL 15 1977
H.C.E.P.C.

Mr. Joe Griffiths
Hillsborough County Environmental
Protection Commission
7402 N. 56th St., Bldg. 500
Tampa, Florida 33617

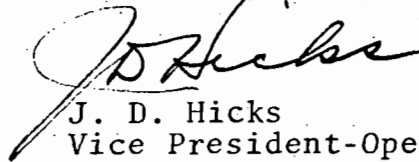
Dear Mr. Griffiths:

This is to inform you that Mr. Alex Kaiser is an authorized representative of Tampa Electric Company.

Attached is a Certificate of Good Standing for Tampa Electric Company.

If you need additional information for the processing of Gannon No. 5 permit application, please contact us.

Yours very truly,


J. D. Hicks
Vice President-Operations

Enclosure

STATE OF FLORIDA

DEPARTMENT OF STATE • DIVISION OF CORPORATIONS

I certify from the records of this office that

TAMPA ELECTRIC COMPANY

is a corporation duly organized under the laws of the State of Florida.

The Charter Number for this corporation is 157782

I further certify that said corporation has filed all annual reports and paid all annual report filing fees due this office through December 31, 1977, and its status is active.



GIVEN under my hand and the Great
Seal of the State of Florida, at
Tallahassee, the Capital, this the
25th day of May,
1977 .

A handwritten signature in cursive script, appearing to read "Bruce A. Smith".

SECRETARY OF STATE

SOURCE TECO GANNON # 5

DATE 8-18-77

COUNTY HILLSBOROUGH

TYPE PERMIT 0

ACTION	INITIAL WHEN COMPLETED	DATE
Preliminary Review	<u>SWR</u>	<u>8-18</u>
Assigned for Review to		
Review Comments		
Number Assigned	<p>I have reviewed the plans and applications submitted and find that the above mentioned source will not reasonably be expected to cause pollution in violation of the Department standards, rules and regulations. I recommend approval of this permit.</p> <p><i>George W. Dehalon</i></p> <p><u>PO 29-5630</u></p>	<u>8-18</u>
Permit Issued & Signed		
Permit Logged		
Permit Mailed		
Data Forms Completed		
Permit Denied		

9-12-77
SWR

TYPE PERMIT ACTION

DESCRIPTION OF PRIMARY SOURCE

New Source (No related permits) _____

Boiler _____

Renewed or modified permit _____

X

Solid Waste (Incinerator) _____

Point source deleted _____

Other Combustion _____

Point source added _____

Process _____

New Source replacing old source _____

Product (Name) _____

BRIEF DESCRIPTION OF PROCESS

This plant produces steam by burning coal which produces electricity

OPERATING TIME: _____

24

HR/D2 _____

7

D2/WK _____

50

WK _____

STACK DATA

Height (FT) _____

306

Diam. (FT) _____

10.3

Temp. (OF) _____

288

Flow Rate (CFM) _____

610,000

Plume Height (FT) _____

Common Stack (Explain) _____

OPERATING DATA

Process Rate _____

176 MW

Process Rate _____

Max Design Rate _____

240 MW

Combustion (Units) Gal _____ TONS _____

Rate _____ #/hr _____ Unit _____

Heat Content _____ BTU/lb _____ BTU/Gal _____

Boiler Capacity _____ MBTU/hr _____

Max Design Rate _____ Unit _____

Fuel (Name) _____

1.04

\$ \$ 9.27 \$ \$

COMMENTS:

Heat input 2,329 MM BTU/hr

*Avg emission 0.089 16/MM BTU } Particulates.
Allowable 0.10 H*

$\#SO_2 = 142,400 \times .0104 \times 2 = 2962 \#/HR$

$SO_2 \text{ T/YR} = \frac{2962 \times 24 \times 365}{2000} = 12,973 \text{ Tons/Yr.}$

Electro. Precipitator 99.7

SO₂ _____
 NO_x _____
 HC _____
 FF _____

EMISSIONS

	lb/hr		lb/ton Product		lb/10 ⁶ BTU		Regulation
	Emission	Allowable	Emission	Allowable	Emission	Allowable	
<u>INSTANT</u> Particulate	0.089	0.10					

CITY Test _____ Allowable _____

IS FOR ESTIMATE

- Stack Test Results Date 5-18-77 Report Received 6-30-77
- V. E. Test Date _____ Report Received _____
- Other tests or emission measurement _____
- Material balance of process using engineering knowledge _____
- Emissions calculated using EPA emission factors _____
- Other Method (Describe): _____

f./e: Hills Co-AP



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHWEST DISTRICT
7601 HIGHWAY 301 NORTH
TAMPA, FLORIDA 33610

REUBIN O'D. ASKEW
GOVERNOR

July 26, 1978
Hillsborough County - AP
Tampa Electric Company

JOSEPH W. LANDERS, JR.
SECRETARY

DAVID PUCHATY
DISTRICT MANAGER

Mr. William N. Cantrell
Environmental Planning
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601

RE: Gannon No. 5
Transmissometer Certification

Dear Mr. Cantrell:

In reply to your letter of July 14, 1978, please be advised the Department has no objections to the manufacturer recalibrating on-site the Optical Path Length Ratio for the Gannon No. 5 transmissometer if all EPA and FDER calibration procedures are observed and certified.

If you have any questions please do not hesitate to contact our office.

Sincerely,

A handwritten signature in cursive script that reads "Dan A. Williams".

Dan A. Williams, P.E.
Air Permitting

DAW/ftb



POST OFFICE BOX 111 TAMPA, FLORIDA 33601 TELEPHONE (813) 879-4111

July 14, 1978

D.E.R.

JUL 20 1978

SOUTHWEST DISTRICT
TAMPA

Mr. Dan Williams
Florida Department of Environmental
Regulation
7601 Highway 301 North
Tampa, Florida 33610

Dear Mr. Williams:

As I explained today on the phone, we are requesting that you approve an on-site recalibration of the Optical Path Length Ratio for the transmissometer for Gannon No. 5 by the manufacturer, Lear Siegler. The manufacturer performed this calibration originally as part of the factory certification required by both EPA and FDER. The recalibration has become necessary because the manufacturer was originally supplied with an incorrect stack dimension.

The recalibration can be done on-site and will save shipping and handling costs. Thank you for your consideration.

Yours very truly,

William N. Cantrell
Engineer
Environmental Planning

WNC:sac

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
ANNUAL OPERATIONS REPORT FORM
FOR AIR EMISSIONS SOURCES

D.E.R.

MAR 13 1978

For each permitted emission point, please submit a separate report for calendar year 19 77 prior to March 1st of the following year.

SOUTHWEST DISTRICT
TAMPA

I. GENERAL INFORMATION:

1. Source Name: Tampa Electric Company (Gannon Station Boiler #5)
2. Permit Number: AO 29-5630
3. Source Address: P. O. Box 111
Tampa, Florida 33601
4. Description of Source: Fossil fuel steam generator

II OPERATING SCHEDULE: 24 hrs/day 7 days/wk 52 wks/yr
actual hours of operation 4944

III RAW MATERIAL INPUT PROCESS WEIGHT:

Raw Material	Input Process Weight	tons/yr
<u>N/A</u>	<u>N/A</u>	<u>tons/yr</u>
<u> </u>	<u> </u>	<u>tons/yr</u>
<u> </u>	<u> </u>	<u>tons/yr</u>
<u> </u>	<u> </u>	<u>tons/yr</u>

IV TOTAL FUEL USAGE, including standby fuels. If fuel is oil, specify weight and sulfur content (e.g., No. 6 oil with 1%S).

<u> </u> 10 ⁶ cubic feet Natural Gas	<u> </u> 10 ³ gallons No. <u> </u> Oil, <u> </u> %S
<u>339,400</u> 10 ³ gallons Propane	<u> </u> 10 ³ gallons Kerosene
<u> </u> tons Coal	<u> </u> 10 ⁶ lb Black Liquor Solids
<u> </u> tons Carbonaceous	<u> </u> tons Refuse
Other (Specify type and units) <u> </u>	

V. EMISSION LEVEL (tons/yr):

A. <u>369.7</u> Particulates	<u> </u> Carbon Monoxide
<u> </u> Nitrogen Oxide	<u> </u> Total Reduced Sulfur
<u> </u> Hydrocarbon	<u> </u> Fluoride
<u>6613.5</u> Sulfur Dioxide	<u> </u>
Other (Specify type and units) <u> </u>	

B. Method of calculating emission rates (e.g., use of fuel analysis and materials balance, emission factors drawn from AP 42, etc.)
Fuel analysis and/or compliance testing

VI CERTIFICATION:

I hereby certify that the information given in this report is correct to the best of my knowledge.

W.J. Johnson
Signature of Owner or Authorized Representative
W.J. Johnson, Acting Manager
Typed Name and Title Environmental Planning
3/8/78
Date

D. E. R.

Submit a separate report for each permitted source by FEBRUARY 28, 1977

SECTION 1: General

SOURCE NAME: Tampa Electric Company (Gannon Unit 5)

MAILING ADDRESS: P. O. Box 111 (Attention: Jeff Rankin)

Tampa, Florida 33601

TELEPHONE NO: 813/879-4111

OPERATING PERMIT NO: FDER AO29-2486

SOURCE DESCRIPTION: Fossil-fuel steam generator

APR 15 1977

SOUTH WEST DISTRICT
ST. PETERSBURG

SECTION 2: PROCESS OPERATIONS:

a. DURATION OF OPERATION AND FREQUENCY: 24 hrs/dy 7 dys/wk 52 wk/yr
e.g. 8 hrs perday, 5 dys per wk and 50 wk/yr. actual hours operation 7559

b. DESIGN CRITERIA: MAXIMUM OUTPUT 239.4 MW (from FPC-67 Form)
e.g. 850 MW, 750 tons/dy

c. ~~NORMAL~~ (AVERAGE) OUTPUT 176.2 MW (during actual hours of operation)
e.g. 424 MW, 670 tons/dy.

d. MAXIMUM PEAK THAT OCCURED DURING ANY ONE DAY 240 MW
e.g. 910 MW, 810 tons/dy.

SECTION 3: TOTAL AMOUNT OF MATERIALS USED/PROCESSED, COMPUTED ON THE SAME BASIS AS PROCESS WEIGHT:

TYPE(MATERIAL)	INPUT PROCESS WEIGHT- DRY	tons/yr
N.A.	N.A.	tons/yr
		tons/yr
		tons/yr

SECTION 4: TOTAL AMOUNT OF FUEL USED. IF FUEL IS OIL, SPECIFY WEIGHT, e.g. NO 2, and % sulfur by weight. INCLUDE STANDBY FUELS.

--	10 ⁶ cu. ft	--	10 ³ gal NO. OIL	%SULFUR
--	10 ³ gal PROPANE	--	10 ³ gal KEROSENE	
538,171	tons COAL	--	10 ⁶ lb BLACK LIQUOR SOLIDS	

OTHER, specify type and units

SECTION 5: EMISSION: ESTIMATED/TESTED EMISSIONS(TONS PER YEAR)

a. 160 (578) tons of particulates *Per application* 13,804 (10,878) tons of sulfur dioxide *Per Application*
 -- tons of nitrogen dioxide -- tons of carbon monoxide
 -- tons of hydrocarbon -- tons (other)

b. ~~STATE~~ METHOD OF CALULATIONS USED IN DETERMINING EMISSION RATES

SO₂ - tons coal X $\frac{\text{tons S}}{\text{tons coal}}$ X $\frac{\text{tons SO}_2}{\text{tons S}}$ X .95 (EPA factor) = tons SO₂
 Particulates - tons coal X $\frac{\text{BTU}}{\text{tons coal}}$ X $\frac{\text{tons part.}}{\text{BTU}}$ = tons particulate

D. E. R.

SECTION 5(cont't)

c. STACK TESTED: Nov. 22, 1976 date
STACK TEST CONDITIONS: 210 MW PROCESS RATE DURING TEST
STACK TEST CONDUCTED BY: Conservation Consultants, Inc.
STACK TEST WITNESSED BY: Mr. Willard Hanks, Fla. DER

APR 15 1977
SOUTH WEST DISTRICT
ST. PETERSBURG

SECTION 6: OPERATIONAL PROBLEMS, IF ANY: Routine

a. IMPROVEMENTS MADE TO PROCESS/POLLUTION CONTROL EQUIPMENT: None

b. TYPE OF MAINTENANCE PERFORMED: Routine

c. NUMBER OF UPSETS LASTING MORE THAN FOUR HOURS DURING THE YEAR: 0

d. NUMBER OF UPSETS LASTING MORE THAN ONE HOUR BUT NOT MORE THAN FOUR HOURS: Unknown

e. NUMBER OF UPSETS LASTING LESS THAN ONE HOUR: Unknown

CERTIFICATION:

I HEREBY CERTIFY THAT THE INFORMATION GIVEN IN THIS REPORT IS CORRECT TO THE BEST OF MY KNOWLEDGE.



Signature of owner or authorized representative

Alex Kaiser,
Director of Power Plant Engineering

Typed name and title

April 5, 1977

Date



POST OFFICE BOX 111 TAMPA, FLORIDA 33601 TELEPHONE (813) 876-4111

December 20, 1976

Mr. Joe Griffith
Hillsborough County Environmental
Protection Commission
7402 N. 56th St., Bldg. 500
Tampa, Florida 33617

Dear Mr. Griffith:

Enclosed please find four copies of the emission test that was performed on our Gannon No. 5 boiler on November 22, 1976. As you can see from the summary table on Page 2 of the report, the emissions average 0.025 #particulates/ 10^6 BTU, which is within the allowable emissions of 0.1 #particulates/ 10^6 BTU.

Also, as you can see from the attached coal analysis report, the sulfur dioxide emissions were 1.84 #SO₂/ 10^6 BTU which is within the allowable emissions limit of 2.4 #SO₂/ 10^6 BTU. The attached visible emission report shows an opacity of 9.145% which is also within allowable limits.

We trust that this satisfies the first emission testing requirement for this boiler under its operation permit No. AO 29-2486.

If you have any questions, don't hesitate to call. Best regards for a happy holiday season.

Yours very truly,

Jeff Rankin, Manager
Environmental Planning

DJR:sac

Enclosures

cc: Mr. Banks Vest THIS COPY FOR

D. E. R.

DEC 23 1976

SOUTH WEST DISTRICT
ST. PETERSBURG



POST OFFICE BOX 111 TAMPA, FLORIDA 33601 TELEPHONE (813) 876-4111

July 13, 1976

Mr. Banks Vest
Florida Department of
Environmental Regulation
P. O. Box 20350
St. Petersburg, Florida 33742

Dear Mr. Vest:

This is to inform you that Alex Kaiser is an authorized representative of Tampa Electric Company.

Yours very truly,

H. L. Culbreath
H. L. Culbreath
President

DEL
OCT 4 1976
SOUTH WEST DISTRICT
ST. PETERSBURG

TECO
TAMPA ELECTRIC COMPANY

POST OFFICE BOX 111 TAMPA, FLORIDA 33601 TELEPHONE (813) 876-4111

June 18, 1976

Mr. Roger P. Stewart, Director
Hillsborough County Environmental
Protection Commission
7402 N. 56th Street, Bldg. 500
Tampa, Florida 33617

RE: Operating Permit, Unit No. 5,
Gannon Station, Compliance Test

Dear Mr. Stewart:

We are submitting (enclosed with this letter) the results of our Gannon Station Unit No. 5 emissions tests as required by our operating permit.

The particulate emissions results are an average of 0.0025 pounds particulates per million BTU, which are well within the allowable limits set by the Florida Administrative Code, Chapter 17-2.04(6)(e)2a. The method of testing was determined by the Hillsborough County Environmental Protection Commission, Conservation Consultants, Inc., and Tampa Electric Company.

The sulfur dioxide emissions are 2.31 pounds SO₂ per million BTU assuming a 95% conversion factor of S to SO₂. These results also meet the Florida Administrative Code, Chapter 17-2.04(6)(e) 2d(i), which allows up to 2.4 pounds SO₂ per million BTU. These values were obtained by fuel analyses.

The results submitted prove compliance of Unit No. 5, Gannon Station, with all applicable rules and regulations. We, therefore, request an operating permit be issued.

Very truly yours,



Dorian K. Valdes
Environmental Engineer
Environmental Planning

DKV:sac

Enclosures

cc: Mr. Banks Vest (FDER) w/o enclosure ← THIS COPY FOR

D. E. R.

JUN 21 1976

SOUTH WEST DISTRICT
ST. PETERSBURG

SOUTH WEST DISTRICT
ST. PETERSBURG
JUN 21 1976
D. E. R.

JUN 9 1976

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JUN 4 1976

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NO 3078		
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A	W	SP
JUN 7 1976		
DER		

Mrs. Lester A. Blaka
 1230 Fordham Drive
 Sun City Center, Florida 33570

Dear Mrs. Blake:

Your letter of May 10, 1975, to Mr. Train concerning the Tampa Electric Company has been referred to this office for reply.

EPA has been aware of the situation at the Big Bend Station as well as the Gannon Station for quite some time. A brief summary of the recent actions and current status may be helpful to you.

On May 12, 1975, EPA issued an Administrative Order to the Tampa Electric Company containing schedules for the installation of pollution control equipment or process modification at the Big Bend and Gannon Stations.

On July 18, 1975, the Florida Department of Environmental Regulation submitted to EPA a revision to the SO₂ emission limitation for power plants.

On October 1, 1975, EPA stayed the portions of the Order which would be affected if the SO₂ revision was approved until such time as EPA acted on the SO₂ revision.

On April 19, 1976, EPA disapproved the SO₂ revision as it relates to the Gannon and Big Bend Stations. As a result of this action, the stay of the Order was terminated and the Big Bend Station must now comply with the previously approved emission limitation of 1.5 pounds of SO₂ per million BTU heat input instead of the proposed revision of 6.5 pounds of SO₂ per million BTU heat input. This disapproval resulted from the failure of the Florida Department of Environmental Regulation to demonstrate that ambient Air Quality Standards would be protected if the proposed revision was approved.

Your concern in this matter is appreciated. If you have any questions please write or call Mr. Richard Schutt of my staff whose number is 404/526-5291.

Sincerely yours,

Original Signed By
 Paul J. Trainor

Director
 Enforcement Division

cc: Mr. J. W. Landers, Jr. ✓
 Mr. R. P. Stewart

RECEIVED

JUN 9 1976

BUREAU OF ENVIRONMENTAL PROTECTION

D. E. R.

JUN 21 1976

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WEST DISTRICT

RECEIVED

MAY 27 1976

BUREAU OF ENVIRONMENTAL PROTECTION

MAY 27 1976

PERMIT

Jerry Cole
SK cc Vert FILE

D. E. R.

JUN 2 1976

MAY 20 1976

SOUTH WEST DISTRICT
ST. PETERSBURG

MAY 23 1976

~~GANNON~~
#5.6

Mr. H. L. Culbreath
President
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601

RE: Administrative Order
AO-75-39(a)

Dear Mr. Culbreath:

On April 12, 1976, the Administrator approved the proposed revision to the Florida Implementation Plan except as it related to: (1) Escambia County, (2) Duval County and (3) Hillsborough County. This action was published in the Federal Register on April 19, 1976, at page 16461.

By virtue of this action, the Administrator disapproved the proposed revised solid fuel emission limitations as they applied to Tampa Electric Company's Big Bend and Gannon Stations, thereby leaving in force the previously approved emission limit of 1.5 lbs. SO₂/10⁶ BTU for solid fuel at these two facilities.

On October 1, 1975, the Regional Administrator issued a partial stay and conditional termination of the Order issued to Tampa Electric Company on May 12, 1975. The effect of this action was to temporarily relieve the Company of complying with: (1) increment numbers 2, 3, 4 and 5 in Appendices E and F, (2) part B in Appendix G and (3) Appendix H to the May 12, 1975, Order until EPA published in the Federal Register a notification of final rulemaking action regarding the proposed Florida plan revision.

The Order provided that, in the event that the proposed plan revision was disapproved as it applied to Tampa Electric Company, the partial stay was to terminate. The Order required the Company to

submit to the Regional Administrator evidence of compliance with the actions previously stayed within 60 days after publication of said disapproval.

Therefore, under the terms of the October 1, 1975 Order, you are required to submit to this office by June 18, 1976, evidence of compliance with the increments in the May 12, 1975 Order which were stayed and which have already become due. In the event that these increments have not been met, further enforcement action by this agency will be required.

In addition, on the basis of an evaluation of the information considered with regard to the disapproval action by the Administrator, a more restrictive interim emission limitation appears to be appropriate. Therefore, the previously issued Administrative Orders must be revised to reflect these findings and interim emission limitations. A draft of the Order will be provided for your review in order for you to determine whether you wish to consent to its terms. Prior to the issuance of the revised Order, you will be afforded the opportunity for a formal transcribed conference. Of course, we would be glad to confer with you informally at any time.

If you have any questions in this regard, please call Mr. Paul J. Traina whose phone number is 404/526-2211.

Sincerely yours,

Original Signed By:

Jack E. Ravan
Regional Administrator

cc: Mr. J. W. Landers, Jr.
Mr. Terry Cole ✓
Mr. Robert Murray
Mr. Roger P. Stewart



POST OFFICE BOX 111 TAMPA, FLORIDA 33601 TELEPHONE (813) 876-4111

March 17, 1976

D. E. R.
MAR 18
SOUTH WEST DISTRICT
ST. PETERSBURG

Mr. Roger P. Stewart, Director
Hillsborough County Environmental
Protection Commission
Sixth Floor, Stovall Prof. Bldg.
305 N. Morgan Street
Tampa, Florida 33602

RE: "Notice to Correct Violation"
Gannon Station - Fly Ash
Recovery Systems on Units 5 & 6

Dear Mr. Stewart:

In answer to Section 3.A. of the above referenced "Notice", the following plan is submitted with the appropriate schedules. There are five (5) areas which will require engineering, procurement, and installation. The first area is heat tracing of all inlet hoppers on both the new and old precipitators. Heat tracing will maintain fly ash at its flowing temperature.

The second area is the hopper baffle vibrators. These vibrators will help in moving the fly ash which has been hanging up in the hoppers.

The third area, the single most time consuming of all the areas, will concern itself with reinjection lines to the boilers from the old No. 5 and No. 6 precipitators. Procurement of pipe lines is the most limiting item.

The fourth area is an emergency ash removal system. This system will be utilized only when there is no other recourse but to manually empty a hopper. In the event this occurs, the system will be so designed to minimize fugitive dust emissions.

Lastly, the fifth area is investigating the existing baghouse system serving the silo and truck loading facility.

Below is a list itemizing the above areas currently scheduled:

I.	Heat tracing inlet hoppers	
	Bidding	2 months
	Delivery	4 months
	Installation*	2 months
		<u>8 months</u>
II.	Hopper baffle vibrators	
	Engineering & Study	2 months
	Procurement	6 months
	Installation*	2 months
		<u>10 months</u>
III.	Reinjection lines to the boilers from the old No. 5 and No. 6 precipitators	
	Engineering & Study	6 months
	Procurement	8 months
	Installation*	3 months
		<u>17 months</u>
IV.	Emergency ash removal system	
	Engineering & Study	6 months
	Procurement	6 months
	Installation*	3 months
		<u>15 months</u>
V.	Investigation of existing baghouse system	
	Investigation	1 month
	Procurement	6 months
	Installation*	1 month
		<u>8 months</u>

*Assuming unit can be scheduled for outage.

Mr. Roger P. Stewart
March 17, 1976
Page 3

Many of these areas have been in the planning, procurement and installation stages since October, 1974, therefore, this would comply with Section 3.B. of the "Notice" requiring a deadline of March 31, 1976 for implementation of said plan. It is hoped that this plan meets with your approval.

In addition to the above plan, Mr. Robert S. Kane, Superintendent, Gannon Station, has taken the following steps to promote better in-plant maintenance and operating techniques in the precipitator and fly ash removal system areas:

- (1) Encouragement of more operator involvement at an operational and design level.
- (2) Instructions have been given to all responsible personnel that there is to be no uncontrolled fugitive dust emissions.
- (3) Additional management personnel have been assigned so as to provide the necessary 24 hours of maintenance supervision.

Be assured that Tampa Electric Company will do all it can to minimize our fugitive dust problem during the interim.

Very truly yours,

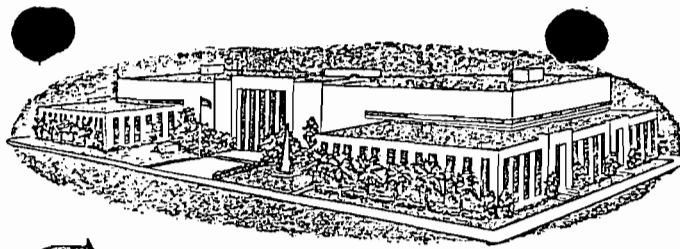


Alex Kaiser, Director
Power Plant Engineering &
Environmental Planning

cc: Mr. J. W. Landers (FDER)
Mr. Banks Vest (FDER) THIS COPY FOR

ENVIRONMENTAL PROTECTION
COMMISSION

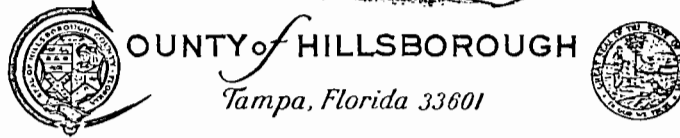
ROBERT E. CURRY, CHAIRMAN
FRANCES M. DAVIN, VICE CHAIRMAN
BOB BONDI
ELIZABETH B. CASTOR
BOB LESTER



ROGER P. STEWART
DIRECTOR

STOVALL PROFESSIONAL BLDG.
305 N. MORGAN ST.
6th FLOOR
TAMPA, FLORIDA 33602

TELEPHONE (813) 272-5960



February 19, 1976

Mr. H. L. Culbreth, President
Tampa Electric Company
P. O. Box 111
Tampa, Florida 33601

D. E. R.

FEB 20 1976

**SOUTH WEST DISTRICT
ST. PETERSBURG**

NOTICE TO CORRECT VIOLATION

Dear Mr. Culbreth:

1. Pursuant to Section 19 of the Hillsborough County Environmental Protection Act, Chapter 67-1504, Laws of Florida, as amended, you are in violation of the following specific provisions of Chapter 67-1504, as amended and the Rules of the Hillsborough County Environmental Protection Commission as follows:

- A. Section 18 of the Hillsborough County Environmental Protection Act, by taking such action as may reasonably be expected to cause air pollution in Hillsborough County as defined in Section 3 (3) of the Hillsborough County Environmental Protection Act.
- B. Chapter 1-3.03 (III) by causing, letting, permitting, suffering or allowing the emissions of fugitive particulate matter without taking necessary precautions to prevent such emissions.

2. Pursuant to Section 19 (2) (6) of the Hillsborough County Environmental Protection Act, the facts constituting the violation are as follows:

- A. Several inspections were conducted by members of our staff at the Tampa Electric Company Gannon Power Station and malfunctions were observed in the fly ash recovery systems on Units 5 and 6.

On January 9, 1976 the precipitator hoppers on Unit 6 were not operating correctly.

On January 27, 1976 the precipitator hoppers on Unit 5 were unable to effectively remove the fly ash.

Also on January 27, 1976 the fabric filter for the silo was the source of considerable dust. We were informed the problem would be corrected but reinspection February 2, 1976 and again February 4, 1976 revealed the dust problem continued.

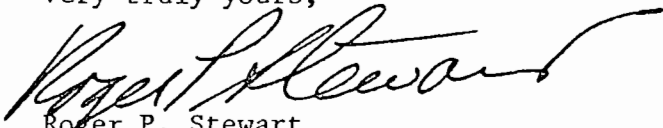
3. You are hereby directed to:

Mr. H. L. Culbreth
Tampa Electric Company

February 19, 1976

- A. Present to this office within fifteen (15) days of receipt of this Notice a plan to provide for the control of fugitive particulate emissions from the Tampa Electric Company Gannon Units 5 and 6 fly ash recovery systems.
 - B. Implement said plan as soon as possible, but no later than March 31, 1976.
4. Be advised that under the provisions of Section 9 of the Hillsborough County Environmental Protection Act, you have the right to appeal the above action by filing a written notice of such appeal with the Commission within twenty (20) days. Failure to request an administrative hearing within twenty (20) days shall constitute a waiver thereof. If you do not comply with the requirements of this Notice and if you do not file a written notice of appeal the Director shall proceed to seek an order requiring compliance.

Very truly yours,



Roger P. Stewart
Director
Hillsborough County Environmental
Protection Commission

RPS/fd

cc: Commission Members
County Attorney
J. Landers
Banks Vest



POST OFFICE BOX 111 TAMPA, FLORIDA 33601 TELEPHONE (813) 876-4111

September 11, 1975

RECEIVED

SEP 15 1975

Mr. Paul Traina, Director
Enforcement Division
Environmental Protection Agency
1421 Peachtree Street N.E.
Atlanta, Georgia 30309

BUREAU OF ENFORCEMENT

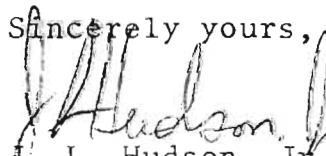
Re: Tampa Electric Company (TECO)
Section 113 Order AO-75-39(a)

Dear Mr. Traina:

Attached is the "Report of a Cause of Excessive Emissions Due to a Malfunction or Breakdown" as required by Part VI of the Section 113 Order. The excessive emissions were sulfur dioxide from Gannon Unit #5. It was necessary for us to burn a higher sulfur content coal than allowable during an interim period while a permanent solution could be implemented in order to prevent a malfunction and breakdown of our electrostatic precipitator on Gannon Unit #5 and therefore prevent excessive particulate emissions.

We have now completed installation of a chemical injection system for fly ash conditioning which will allow the precipitator to operate satisfactorily while collecting low sulfur coal ash.

Sincerely yours,


J. L. Hudson, Jr.
Chemical Engineer
Environmental Planning

JLH:mlt
enclosure

cc: Mr. Jay Landers, with attachment
✓ Mr. Terry Cole, with attachment
Mr. R. P. Stewart, with attachment
Mr. R. P. Murray, with attachment

REPORT OF CAUSE OR EXCESSIVE EMISSIONS
DUE TO MALFUNCTION OR BREAKDOWN AS REQUIRED BY
SECTION 113 ORDER PART VI.

Re: Gannon Unit #5

September 11, 1975

- (1) The time the excess emission began and ended;

Excessive sulfur dioxide emissions began on July 17, 1975
and ceased on September 5, 1975.

- (2) The time of the beginning and end of the breakdown or malfunction which is asserted to be the cause of the excessive emission;

Excessive emissions of sulfur dioxide were necessary in order to prevent the breakdown or malfunction of the electrostatic precipitator on Gannon Unit #5, as experienced on our Gannon Unit #6 and reported earlier (letter of September 3, 1975 to Mr. Paul Traina from H. L. Culbreath).

- (3) An estimate of the physical and chemical composition rate and concentration of emission which occurred;

The excessive emissions for sulfur dioxide were emitted at rates which follow:

<u>WEEK ENDING</u>	<u>POUNDS SULFUR DIOXIDE PER MILLION BTU</u>
July 19	3.4
July 26	3.2
August 2	2.7
August 9 (estimated)	3.5
August 16	3.7
August 23	2.8
August 30	3.9
September 6 (estimated)	2.5

- (4) An explanation and, where appropriate, an engineering analysis of the cause of malfunction or breakdown;

Experience with a malfunction and breakdown of the precipitator on Gannon Unit #6 while burning low sulfur coal warned us of a problem on Gannon Unit #5 precipitator. In order to prevent the excessive particulate emissions which would have occurred with a malfunction of the precipitator, we elected to burn coal with a sulfur content in excess of the

allowable while chemical injection fly ash conditioning equipment was being installed to allow the collection of the low sulfur coal ash without malfunction or breakdown of the precipitator.

- (5) A description of those operating and/or maintenance procedures and practices in use to and during the occurrence which were designed to prevent or minimize the extent and duration of the malfunction or breakdown;

The low sulfur and high sulfur coal were mixed with the purpose in mind of operating at the lowest possible sulfur content and still prevent a problem with the electrostatic precipitator.

- (6) Any other steps taken to minimize the extent or duration of the malfunction or breakdown;

In order to minimize the duration of the excessive emissions we elected to install a chemical additive system on the unit which can be installed very quickly rather than a sulfur burner (SO_2 generator) which takes much more time to install. By electing the chemical injection method we minimized the period of time that excessive sulfur dioxide emissions are required.

- (7) An analysis of what steps will be taken to prevent or minimize similar occurrences in the future;

Prior to putting the unit in service on July 17, the controls of the electrostatic precipitator were altered to allow for protection against excessive sparking in the precipitator on low sulfur coal ash. This in combination with the chemical additive system is expected to prevent any malfunction of the precipitator due to excessive sparking resulting from low sulfur coal ash. These combinations of solutions would also eliminate the necessity of increasing the sulfur content of the fuel for that purpose.



J.L.T.

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File

POST OFFICE BOX 111 TAMPA, FLORIDA 33601 TELEPHONE (813) 876-4111

August 22, 1975

Mr. Bennie Caramella
Hillsborough County Environmental
Protection Commission
305 N. Morgan Street
Sixth Floor, Stovall Prof. Bldg.
Tampa, Florida 33602

RE: Gannon Unit Nos. 5 and 6
Letter of July 18, 1975

Dear Mr. Caramella:

By this letter I am informing you of our progress in the installation of chemical additive (flue gas conditioning agent) injection systems on the Gannon Unit Nos. 5 and 6 to enable the precipitators on those units to operate satisfactorily while burning low sulfur coal in these units. The following equipment has been installed:

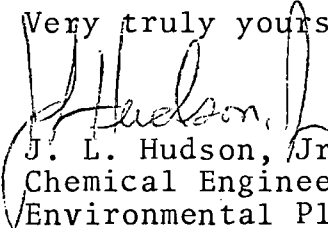
- (1) The chemical storage tank filled with chemical
- (2) The chemical pumps for both units
- (3) The injection ports in both units

We are presently burning a mixture of 80% low sulfur and 20% high sulfur coal in both Gannon Units 5 and 6. This mixture should be approximately 1.7% sulfur. We are in the process now of connecting the chemical pumps to the injection probes on Gannon Unit No. 6 and would expect to have that system operable on or before Monday, August 25, 1975. After the injection

Mr. Bennie Caramella
Page 2
August 22, 1975

system has demonstrated satisfactory, reliable operation we will begin burning 100% low sulfur coal in that unit. We would expect this to occur by September 1, 1975. During the preliminary operation period of the injection system on Unit No. 6 we will complete the connection of the chemical pumps and the injection ports on Unit No. 5. We expect the system on Unit No. 5 to be complete and operable on or before September 1, 1975. After a satisfactory operating period to guarantee the reliability of that system we will begin burning 100% low sulfur coal in Gannon Unit No. 5 also. We would expect this to occur by September 8, 1975. At that time we expect to be in full compliance with all applicable sulfur dioxide and particulate emission regulations in both Gannon Unit Nos. 5 and 6.

If you require further information or would like to arrange to inspect the equipment and the test program, please contact me and we will make the necessary arrangements.

Very truly yours,

J. L. Hudson, Jr.
Chemical Engineer
Environmental Planning

JLH:sac

cc: Mr. J. H. Kerns, DER ← THIS COPY FOR
Mr. J. Landers, Jr., DER
Mr. Bob Bondi, HCC

D. P. O.

NOV 27 1974

WEST CENTRAL REGION

November 22, 1974

*File
Tampa Electric
Gannon St 586*

Mr. Bennie J. Caramella
Environmental Engineer
Hillsborough County Environmental
Protection Commission
305 North Morgan Street
Tampa, Florida 33602

SUBJECT: Gannon Station Unit Nos. 5 & 6
Compliance Schedule

Dear Sir:

In response to your letter dated November 18, 1974, we would like to provide the following information. Our strategy for coming into compliance with SO₂ emission limitations for the subject boilers is by the utilization of low sulfur coal. Since there are no modifications required for these boilers, we did not think the November 18, 1974, date was applicable. It was not our intent to miss an applicable compliance date but perhaps it was not clear that no construction and/or modification would be necessary.

We trust that this clears up the situation.

Yours very truly,

Alex Kaiser, Director of
Power Plant Engineering &
Environmental Planning

DJR:cf

bcc: Mr. J. D. Hicks
Mr. R. D. Welch
Mr. E. K. Nelson, III
Mr. H. A. Moshell, Jr.
Mr. D. J. Rankin
Mr. J. L. Hudson
Mr. R. P. Murray
Mr. R. C. Bondi

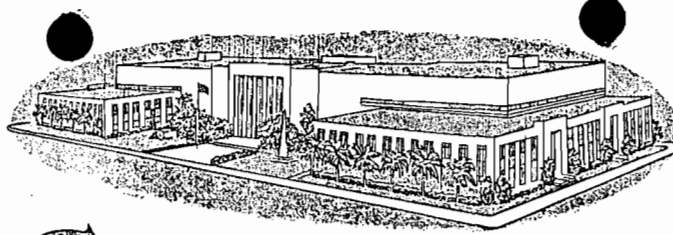
THE
BOARD OF COUNTY COMMISSIONERS

ROBERT E. CURRY, CHAIRMAN
DIST. 1, TAMPA

BOB LESTER, VICE-CHAIRMAN
DIST. 5, RUSKIN

RUDY RODRIGUEZ, DIST. 2, TAMPA
ELIZABETH B. CASTOR, DIST. 3, TAMPA
CARL L. CARPENTER, JR., DIST. 4, PLANT CITY

P. O. Box 1110
TAMPA, FLORIDA 33601
TELEPHONE: (813) 223-1311



COUNTY OF HILLSBOROUGH
Tampa, Florida 33601



JAMES F. TAYLOR, JR.
CLERK

RUDY SPOTO
COUNTY ADMINISTRATOR

ENVIRONMENTAL PROTECTION COMMISSION
305 NORTH MORGAN STREET
TAMPA, FLORIDA 33602

ROGER P. STEWART
DIRECTOR

November 18, 1974

Alex Kaiser, Director
Power Plant Engineering and Environmental
Planning
Tampa Electric Company
P. O. Box 111
Tampa, Florida 33601

Re: Gannon Station Units 5 & 6
Compliance Schedule (SO₂)

Dear Mr. Kaiser:

In accordance with proviso # 3 of your operating permit No. A0-29-2191 compliance increment #3 was to be achieved by 11/18/74. To date our agency has not received any formal notification concerning this increment.

You are requested to furnish a copy of this information to our agency within ten (10) days after receipt of this letter. Failure to comply with the conditions of your permit may force the Department to take legal action.

If any questions arise concerning this matter, do not hesitate to contact us.

Sincerely,

Bennie J. Caramella
Environmental Engineer
Hillsborough County Environmental
Protection Commission

BJC/fd

OPERATION PERMIT CONDITIONS
FOR AIR POLLUTION SOURCES

(An "X" indicates applicable conditions)

DATE: 5/25/73

TECO
Gannon StationA029-2191
Units 5 & 6

PERMIT NO.

- (X) 1. The density of visible emissions for existing sources, until July 1, 1975, shall not exceed a Ringelmann Number Two or an equivalent 40% opacity. The density of visible emissions for all sources after July 1, 1975, shall not exceed a Ringelmann Number One or an equivalent 20% opacity. If the presence of uncombined water is the only reason for failure to meet these visible emissions standards, such a failure shall not be in violation of this rule. (Chapter 17-2.04 (1) (a) (b) (d))
- (X) 2. Test the emissions for the following pollutant(s) at intervals of _____ from the date of this permit and submit four copies of test results to the regional engineer of this agency within fifteen days of such testing. (Chapter 17-2.07(1))
- | | |
|---|--|
| <input type="checkbox"/> Particulates
<input type="checkbox"/> Fluorides
<input type="checkbox"/> Plume Density | <input checked="" type="checkbox"/> Sulfur Oxides
<input type="checkbox"/> Nitrogen Oxides
<input type="checkbox"/> Hydrocarbons |
|---|--|
- (X) 3. According to revised Chapter 17-2 (Revised 1-18-72), this facility must be modified, up graded, or eliminated in order to comply with applicable emission limitations. * To insure compliance pursuant to the time limitation specified in Section 17-2.03(2), Chapter 17-2, Florida Administrative Code, the following steps toward compliance are made a condition of this permit.
- (A) Submit on or before 10/3/73 a final control plan for complying with Chapter 17-2, Florida Administrative Code. This plan is subject to approval by the regional office.
- (B) Submit on or before 4/24/74 a copy of contract(s) for modification/control equipment and/or fuels necessary to comply with Chapter 17-2.
- (C) On or before 11/18/74, construction and/or modification must be initiated. Submit 60 days prior to this date construction permit applications and necessary information.
- (D) Construction and/or modifications toward compliance must be completed by 5/4/75. Submit no later than 5/18/75 confirmation of this condition.
- (E) Submit on or before 7/1/75 proof of compliance. This must include any changes in the construction permit application as submitted, and a final engineering report and stack samples _____ to prove compliance. (test results and/or calculations)
- * The applicable emission limitation for this facility is:
17-2.04 Section (6) (e) 2.d Chapter 17-2, Florida Administrative Code.
- (X) 4. Submit for this facility, each calander year, on or before March 1, an emission report for the preceding calander year containing the following information.
- (A) Annual amount of materials and/or fuels utilized.
- (B) Annual emissions.
- (C) Any changes in the information contained in the permit application.

RECEIVED

Terry Cole
JPS

SEP 3 1975

TECO
TAMPA ELECTRIC COMPANY

BUREAU OF ENFORCEMENT

POST OFFICE BOX 111 TAMPA, FLORIDA 33601 TELEPHONE (813) 876-4111

August 22, 1975

ER

AUG 27 1975

Mr. Bennie Caramella
Hillsborough County Environmental
Protection Commission
305 N. Morgan Street
Sixth Floor, Stovall Prof. Bldg.
Tampa, Florida 33602

RE: Gannon Unit Nos. 5 and 6
Letter of July 18, 1975

Dear Mr. Caramella:

By this letter I am informing you of our progress in the installation of chemical additive (flue gas conditioning agent) injection systems on the Gannon Unit Nos. 5 and 6 to enable the precipitators on those units to operate satisfactorily while burning low sulfur coal in these units. The following equipment has been installed:

- (1) The chemical storage tank filled with chemical
- (2) The chemical pumps for both units
- (3) The injection ports in both units

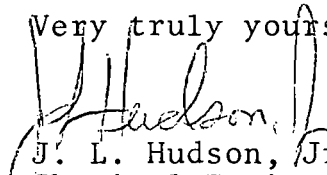
We are presently burning a mixture of 80% low sulfur and 20% high sulfur coal in both Gannon Units 5 and 6. This mixture should be approximately 1.7% sulfur. We are in the process now of connecting the chemical pumps to the injection probes on Gannon Unit No. 6 and would expect to have that system operable on or before Monday, August 25, 1975. After the injection

Mr. Bennie Caramella
Page 2
August 22, 1975

system has demonstrated satisfactory, reliable operation we will begin burning 100% low sulfur coal in that unit. We would expect this to occur by September 1, 1975. During the preliminary operation period of the injection system on Unit No. 6 we will complete the connection of the chemical pumps and the injection ports on Unit No. 5. We expect the system on Unit No. 5 to be complete and operable on or before September 1, 1975. After a satisfactory operating period to guarantee the reliability of that system we will begin burning 100% low sulfur coal in Gannon Unit No. 5 also. We would expect this to occur by September 8, 1975. At that time we expect to be in full compliance with all applicable sulfur dioxide and particulate emission regulations in both Gannon Unit Nos. 5 and 6.

If you require further information or would like to arrange to inspect the equipment and the test program, please contact me and we will make the necessary arrangements.

Very truly yours,


J. L. Hudson, Jr.
Chemical Engineer
Environmental Planning

JLH:sac

cc: Mr. J. H. Kerns, DER
Mr. J. Landers, Jr., DER ← THIS COPY FOR
Mr. Bob Bondi, HCC

David Forehand

D. P. C.

MAR 27 1974

WEST. CENTRAL REGION

HILLSBOROUGH COUNTY ENVIRONMENTAL PROTECTION COMMISSION

SOURCE TEST

CONDUCTED AT

TAMPA ELECTRIC COMPANY

GANNON NO. 5

TAMPA , FLORIDA

ON

DECEMBER 6 , 1973

*- Before modified Appt.
file in.*

DF

INTRODUCTION

On 12/6/73, we arrived at 8:00 A.M. at Tampa Electric Gannon Plant located in Port Sutton. After some delay because of the construction work going on at that time, we started sampling around 10:30 A.M. . We concluded the test by 4:00 P.M. During the entire sampling time the unit was held constant with a generating power of 182 MW (75% of maximum capacity). This was arranged in advance through the Environmental Planning Department of Tampa Electric.

SOURCE DESCRIPTION

Gannon Unit # 5 is one of the six units in this TECO Plant. It has a maximum generating capacity of 240 MW corresponding to a heat input of approximately 2.3 billions BTU/Hr. It uses coal for fuel.

The sampling ports at the stack are within easy access with adequate facilities.

SAMPLING PROCEDURE

This source was sampled for particulates using the Florida State method. Three runs were made: A "moisture" run and two "dry" runs. A total of 30 points were traversed during 3 minutes each on every run. The total sampling time amounted to 4.5 hours.

PARTICULATE SOURCE TEST RESULTS

TAMPA ELECTRIC COMPANY - GANNON NO. 5

DECEMBER 6, 1973

RUN NO.	EMISSIONS lbs/hr.	ALLOWABLE lbs/hr.	GRAINS/ SCF	ACFM	%H ₂ O	TEMP OF	% ISOKINETIC
MOISTURE RUN	165.1	172.6	.0600	531,060	13	305	115.6
DRY RUN #1	423.9	"	.1541	"	13	311	97.2
DRY RUN #2	592.4	"	.2153	"	14	318	107.4
MEAN	393.8	172.6	.1431	"	13.3	311	-

APPENDIX

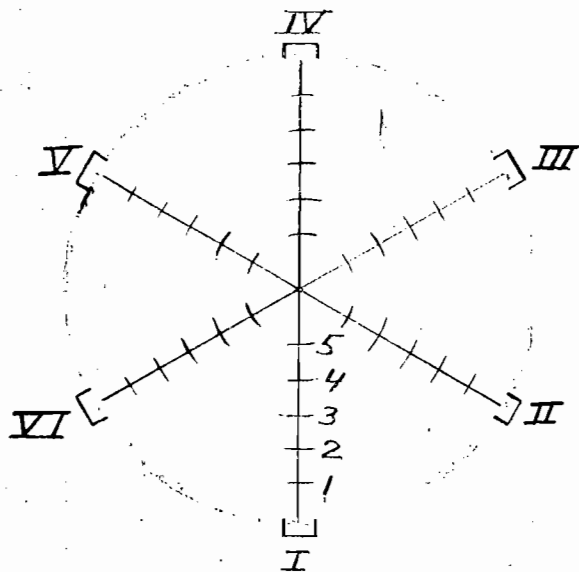
Contents:

1. Nomenclature and Dimensions
2. Sampling Points location and data summations
3. Determination of gas stream velocity and meter rate for the moisture run
4. Determination of Isokinetic meter rate (for dry run #1 and #2)
5. Field Data
6. Calculations
7. Lab Analysis results
8. Process statement
9. Project Participants

NOMENCLATURE AND DIMENSIONS:

ACFM = actual ft³/min.
 A_n = probe nozzle tip area, ft²
 A_s = area of stack, ft²
 B_{WM} = water vapor volume in metered gas, ft³
 B_{W^o} = proportion of water vapor in gas stream by volume, dimensionless.
 C_s = concentration at standard conditions, grains/SCF
 d² = square of probe nozzle tip diameter, in²
 E = source emission rate. ;lbs/ hr
 F_s = pitot coefficient
 %H₂O = percent water vapor, dimensionless
 M_c = moisture condensate correction factor for Isokinetic meter rate.
 $\sqrt{\Delta P_s}$ = square root of velocity head, in. H₂O
 P_B = barometric pressure, in. Hg.
 P_M = meter pressure, in. Hg.
 t = sampling time, sec.
 Q_A = stack volumetric flow rate under actual conditions, ft³/min
 Q_S = stack volumetric flow rate corrected to standard conditions and dry basis, ft³/min
 R_M = meter rate, ft³/min
 SCFM = standard ft³/min
 T_M = meter temperature
 T_s = stack temperature
 V_M = volume of total sample metered under actual conditions, ft³.
 V_{MD} = volume of total sample metered on a dry basis, ft³
 V_{MDC} = dry volume of total sample metered corrected to standard conditions, ft³
 V_s = gas stream velocity, ft/sec
 V_{sc} = gas stream velocity corrected to standard conditions, ft/sec
 V_w = volume of moisture condensate, ml.
 V_{wc} = water vapor volume of moisture condensate, ft³
 v.p. = water vapor pressure at meter temperature

SAMPLING POINTS LOCATION:



STACK DIAMETER: 14' 7"

POINT	DISTANCE (FROM STACK WALL)
1	3.75"
2	14.50
3	25.50
4	39.75
5	60.25

DATA SUMMATION:

$$\overline{V_{AFS}}_{AVG} = .80$$

$$P_B(\text{in. Hg}) = 30$$

$$d^2 = .0625$$

$$F_s = .83$$

$$T_{S_m} = 305^\circ\text{F}$$

$$T_{S_1} = 311^\circ\text{F}$$

$$T_{S_2} = 318^\circ\text{F}$$

$$T_{M_m} = 82^\circ\text{F}$$

$$T_{M_1} = 81^\circ\text{F}$$

$$T_{M_2} = 88^\circ\text{F}$$

$$P_{M_m} = 6.6$$

$$P_{M_1} = 8.7$$

$$P_{M_2} = 8.2$$

$$V_{W_m} = 125 \text{ ml}$$

$$V_{W_1} = 110 \text{ ml}$$

$$V_{W_2} = 119 \text{ ml}$$

$$V_{M_m} = 82.84 \text{ ft}^3$$

$$V_{M_1} = 76.61 \text{ ft}^3$$

$$V_{M_2} = 84.80 \text{ ft}^3$$

$$V.P._m = 1.102$$

$$V.P._1 = 1.066$$

$$V.P._2 = 1.335$$

$$A_s = 167 \text{ ft}^2$$

$$A_n = .0003 \text{ ft}^2$$

$$\theta = 5400 \text{ sec}$$

DETERMINATION OF GAS STREAM VELOCITY AND METER RATE FOR THE MOISTURE RUN.

$$\sqrt{\Delta P_{SAVE}} = .80$$

$$T_M = 74^\circ F = 534^\circ R$$

$$P_B (\text{in. Hg}) = 30$$

$$d^2 = .0625$$

$$T_S = 300^\circ F = 760^\circ R$$

$$P_M (\text{in. Hg}) = 2.55 \text{ assume } 5$$

$$F_S = 0.83$$

$$V_S = 2.90 \times F_S \times \sqrt{\Delta P_{SAVE}} \times \sqrt{T_S}$$

$$V_S = (2.90)(.83)(.80)(\sqrt{760}) = \underline{53.0 \text{ ft/sec}}$$

$$R_M = 0.33 \left(\frac{T_M}{T_S} \right) V_S d^2 \frac{P_B}{P_B - P_M}$$

$$R_M = .33 \left(\frac{534}{760} \right) (53.0) (.0625) \left(\frac{30}{30-5} \right) = \underline{0.92 \text{ ft}^3/\text{min}}$$

$$\frac{R_M}{\sqrt{\Delta P_{SAVE}}} = \frac{0.92}{.80} = 1.15$$

1.15 x $\sqrt{\Delta P_S}$ (at each point) \rightarrow GIVES THE METER RATE FOR EACH POINT.

DETERMINATION OF ISOKINETIC METER RATE

(FOR DRY RUN #1 AND #2)

DATA FROM MOISTURE RUN:

$$V_w = 125 \text{ ml}$$

$$T_M = 82^\circ\text{F} = 542^\circ\text{R}$$

$$V_M = 82.84 \text{ ft}^3$$

$$T_S = 305^\circ\text{F} = 765^\circ\text{R}$$

$$P_M = 6.6$$

$$V_{WC} = .00267 \frac{V_w \times T_M}{P_B - P_M}$$

$$V_{WC} = .00267 \frac{(125)(542)}{30 - 6.6} = 7.76 \text{ ft}^3$$

$$M_C = \frac{V_M}{V_M + V_{WC}} = \frac{82.84}{82.84 + 7.76} = .91$$

$$R_M = 0.33 \left(\frac{T_M}{T_S} \right) V_s d^2 \frac{P_B}{P_B - P_M}$$

$$R_M = (.33) \left(\frac{542}{765} \right) (53.0) (.0625) \left(\frac{30}{30 - 6.6} \right) = 1.00 \text{ ft}^3/\text{min}$$

ISOKINETIC SAMPLING METER RATE:

$$R_M M_C = (1.00)(.91) = .91 \text{ ft}^3/\text{min}$$

$$\frac{R_M M_C}{\overline{VAPs}_{AVG}} = \frac{.91}{.80} = 1.14$$

$1.14 \times \overline{VAPs}$ (at each point) \rightarrow GIVES THE ISOKINETIC METER RATE FOR EACH POINT

PLANT TECO-GANNON
 DATE 12-6-73
 SAMPLING LOCATION UNIT #5
 SAMPLE TYPE PARTICULATES + FLUORIDES
 RUN NUMBER MOISTURE
 OPERATOR _____
 AMBIENT TEMPERATURE _____
 BAROMETRIC PRESSURE _____
 STATIC PRESSURE (P_s) 1.4" H₂O
 FILTER NUMBER (s) NO THIMBLE

PROBE LENGTH AND TYPE _____
 NOZZLE I.D. 0.25"
 ASSUMED MOISTURE, % _____
 SAMPLE BOX NUMBER _____
 METER BOX NUMBER _____
 METER ΔH @ _____
 C FACTOR _____
 PROBE HEATER SETTING _____
 HEATER BOX SETTING _____
 REFERENCE Δp _____

SCHMATIC OF TRAVERSE POINT LAYOUT
 READ AND RECORD ALL DATA EVERY 3 MINUTES

LEAK TEST : 0.00 CFM at 10" Hg.

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24-Hr CLOCK)	GAS METER READING (V _m), ft ³	VELOCITY HEAD (Δp _s), in. H ₂ O	METER PRESSURE (ΔH @ 10" Hg)		STACK TEMPERATURE (T _s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET (T _{m in}), °F	OUTLET (T _{m out}), °F			
III	1	3 3 ³ / ₄ "	1144.67	.54.73	.84	.89	315	75		6.5		
	2	3 14 ¹ / ₂ "	1148.16	.85.92	1.06	1.08	315	76		7.4		
	3	3 25 ¹ / ₂ "	1151.42	.92.96	1.10	1.08	315	76		7.2		
	4	3 39 ³ / ₄ "	1154.58	.95.97	1.12	1.08	315	76		2.2		
	5	3 60 ¹ / ₄ "	1157.76	.96.97	1.12	1.08	315	77		7.2		
II	1	3	1160.95	.90.95	1.09	1.07	348	78		7.2		
	2	3	1164.13	1.00.100	1.15	1.12	348	78		7.4		
	3	3	1167.43	1.10.105	1.21	1.17	348	79		7.8		
	4	3	1170.88	1.08.104	1.20	1.17	348	80		7.8		
	5	3	1174.36	1.08.104	1.20	1.17	348	80		8.0		
I	1	3	1177.84	.08.28	.32	.32	317	83		4.5		
	2	3	1179.03	.08.28	.32	.32	317	83		4.5		
	3	3	1180.10	.08.28	.32	.32	317	84		4.5		
	4	3	1181.12	.30.55	.63	.71	317	84		5.7		
	5	3	1183.32	1.05.102	1.17	1.19	317	84		7.8		
VI	1	3	1186.67	.08.28	.32	.30	285	85		4.4		
	2	3	1187.86	.00.00	-	-	285	85		0.0		
	3	3	1187.86	.10.31	.36	.33	285	85		4.4		
	4	3	1188.96	.70.84	.97	.94	285	85		6.4		
	5	3	1191.52	1.20.110	1.27	1.25	285	86		8.0		

REMARKS:

FIELD DATA

PLANT _____
 DATE _____
 SAMPLING LOCATION _____
 SAMPLE TYPE _____
 RUN NUMBER MOISTURE
 OPERATOR _____
 AMBIENT TEMPERATURE _____
 BAROMETRIC PRESSURE _____
 STATIC PRESSURE, (P_s) _____
 FILTER NUMBER (s) _____

PROBE LENGTH AND TYPE _____
 NOZZLE I.D. _____
 ASSUMED MOISTURE, % _____
 SAMPLE BOX NUMBER _____
 METER BOX NUMBER _____
 METER ΔH_e _____
 C FACTOR _____
 PROBE HEATER SETTING _____
 HEATER BOX SETTING _____
 REFERENCE Δp _____

SCHEMATIC OF TRAVERSE POINT LAYOUT
 READ AND RECORD ALL DATA EVERY 3 MINUTES

TRAVERSE POINT NUMBER	CLOCK TIME (24-hr CLOCK)	GAS METER READING (V _m), ft ³	VELOCITY HEAD (Δp _v), in. H ₂ O	METER RATE CFM		STACK TEMPERATURE (T _s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
				DESIRED	ACTUAL		INLET (T _{m in}), °F	OUTLET (T _{m out}), °F			
V 1	3	1195.24	.70	.84	.97	283	85	7.0			
	3	1198.24	.74	.86	.99	283	85	7.0			
	3	1201.26	1.12	1.06	1.22	283	85	8.0			
	3	1204.69	1.08	1.04	1.20	283	85	8.0			
	3	1208.19	1.12	1.06	1.22	283	85	7.8			
IV 1	3	1211.59	.64	.80	.92	285	83	7.2			
	3	1214.70	.86	.93	1.07	285	83	7.2			
	3	1217.93	.90	.95	1.09	285	82	7.2			
	3	1221.20	.92	.96	1.10	285	82	7.2			
	3	1224.35	.95	.97	1.12	285	82	7.2			
		1227.51									
AVERAGE:			.80			305	82	6.7 6.6			

REMARKS:

FIELD DATA

PLANT TECO - GANNON
 DATE 12-6-73
 SAMPLING LOCATION UNIT #5
 SAMPLE TYPE PARTICULATES & FLUORIDES
 RUN NUMBER DRY RUN #1
 OPERATOR _____
 AMBIENT TEMPERATURE _____
 BAROMETRIC PRESSURE _____
 STATIC PRESSURE, (P_s) _____
 FILTER NUMBER (s) THIMBLE #1

PROBE LENGTH AND TYPE _____
 NOZZLE I.D. 0.25"
 ASSUMED MOISTURE, % _____
 SAMPLE BOX NUMBER _____
 METER BOX NUMBER _____
 METER ΔH @ _____
 C.FACTOR _____
 PROBE HEATER SETTING _____
 HEATER BOX SETTING _____
 REFERENCE Δp _____

SCHMATIC OF TRAVERSE POINT LAYOUT LEAK TEST: 0.00 CFM at 10" Hg
 READ AND RECORD ALL DATA EVERY 3 MINUTES

TRAVERSE POINT NUMBER	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V _m), ft ³	VELOCITY HEAD (Δp _s), in. H ₂ O		METER READING CFM		STACK TEMPERATURE (T _s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
			AP _s	V _{AP_s}	DESIRED	ACTUAL		INLET (T _{m in}), °F	OUTLET (T _{m out}), °F			
IV	1	3 3 ³ / ₄ "	1227.60	.64 .80	.91 .88	290	82		7.8			
	2	3 14 ¹ / ₂ "	1230.41	.86 .93	1.06 1.00	290	82		8.6			
	3	3 25 ¹ / ₂ "	1233.44	.90 .95	1.08 1.05	290	82		8.8			
	4	3 39 ³ / ₄ "	1236.51	.92 .96	1.09 1.06	290	82		9.0			
	5	3 60 ¹ / ₄ "	1239.55	.95 .97	1.11 1.06	290	82		9.2			
V	1	3	1242.59	.70 .84	.96 .93	285	81		8.1			
	2	3	1245.57	.74 .86	.98 .93	285	81		8.5			
	3	3	1248.39	1.12 1.06	1.21 1.26	285	81		9.8			
	4	3	1251.34	1.08 1.04	1.19 1.09	285	81		9.8			
	5	3	1254.12	1.12 1.06	1.21 1.09	285	80		9.5			
VI	1	3	1256.74	.08 .28	.32 .31	295	80		5.0			
	2	3	1257.52	.00 .00	0 0	295	80		5.0			
	3	3	1257.52	.10 .31	.35 .31	295	80		5.0			
	4	3	1258.41	.70 .84	.96 .98	295	81		9.6			
	5	3	1261.30	1.20 1.10	1.25	295	81		11.4			
I	1	3	1264.57	.08 .28	.32 .34	325	80		5.0			
	2	3	1265.43	.08 .28	.32 .34	325	80		5.0			
	3	3	1266.39	.08 .28	.32 .34	325	80		5.0			
	4	3	1267.34	.30 .55	.63 .60	325	80		7.0			
	5	3	1268.72	1.05 1.02	1.16 1.10	325	80		10.0			

ETS:

PLANT TECO - GANNON
 DATE 11-6-73
 SAMPLING LOCATION UNIT #5
 SAMPLE TYPE _____
 RUN NUMBER DRY RUN #1
 OPERATOR _____
 AMBIENT TEMPERATURE _____
 BAROMETRIC PRESSURE _____
 STATIC PRESSURE, (P_s) _____
 FILTER NUMBER (s) _____

PROBE LENGTH AND TYPE _____
 NOZZLE I.D. _____
 ASSUMED MOISTURE, % _____
 SAMPLE BOX NUMBER _____
 METER BOX NUMBER _____
 METER ΔH @ _____
 C FACTOR _____
 PROBE HEATER SETTING _____
 HEATER BOX SETTING _____
 REFERENCE ΔP _____

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 3 MINUTES

TRAVERSE POINT NUMBER	CLOCK TIME (24-hr CLOCK)	GAS METER READING (V _m), ft ³	VELOCITY HEAD (ΔP _s), in. H ₂ O	METER PRESSURE (in. H ₂ O)		STACK TEMPERATURE (T _s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
				DESIRED	ACTUAL		INLET (T _{m in}), °F	CUTLET (T _{m out}), °F			
II	1	1271.49	.90	.95	1.08	1.06	350	80	10.4		
	2	1274.47	1.00	1.00	1.14	1.17	350	81	11.2		
	3	1277.87	1.10	1.05	1.20	1.20	350	81	11.8		
	4	1281.53	1.08	1.04	1.19	1.20	350	82	11.8		
	5	1285.25	1.08	1.04	1.19	1.20	350	82	11.8		
III	1	1288.94	.54	.73	.83	.88	323	82	9.8		
	2	1291.45	.85	.92	1.05	1.00	323	82	10.1		
	3	1294.42	.92	.96	1.09	1.09	323	81	11.0		
	4	1297.64	.95	.97	1.11	1.09	323	82	11.0		
	5	1300.90	.96	.97	1.11	1.09	323	82	11.0		
		1304.21									
		AVERAGE:	.80				311	81	8.7		

REMARKS:

PLANT TECO-GANNON
 DATE 12-6-73
 SAMPLING LOCATION UNIT #5
 SAMPLE TYPE PARTICULATES + FLUORIDES
 RUN NUMBER DRY RUN #2
 OPERATOR _____
 AMBIENT TEMPERATURE _____
 BAROMETRIC PRESSURE _____
 STATIC PRESSURE, (P) _____
 FILTER NUMBER (s) THIMBLE #2

PROBE LENGTH AND TYPE _____
 NOZZLE I.D. 0.25"
 ASSUMED MOISTURE, % _____
 SAMPLE BOX NUMBER _____
 METER BOX NUMBER _____
 METER ΔH₀ _____
 C FACTOR _____
 PROBE HEATER SETTING _____
 HEATER BOX SETTING _____
 REFERENCE Δp _____

SCHEMATIC OF TRAVERSE POINT LAYOUT
 READ AND RECORD ALL DATA EVERY 3 MINUTES

LEAK TEST: 0.00 CFM at 10" Hg.

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V _m), ft ³	VELOCITY HEAD (Δp _s), in. H ₂ O	METER READING (CFM)		STACK TEMPERATURE (T _s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET (T _{m in}), °F	OUTLET (T _{m out}), °F			
III	1	3	3 ³ / ₄ "	1304.37	.54.73	.83	.79	325	86		8.5	
	2	3	14 ¹ / ₂ "	1307.60	.85.92	1.05	1.11	325	86		9.0	
	3	3	25 ¹ / ₂ "	1310.86	.92.96	1.09	1.11	325	86		9.0	
	4	3	39 ³ / ₄ "	1313.99	.95.97	1.11	1.09	325	86		9.0	
	5	3	60 ¹ / ₄ "	1317.24	.96.97	1.11	1.13	325	86		9.6	
II	1	3		1320.63	.90.95	1.08	1.08	355	87		9.0	
	2	3		1323.79	1.00.100	1.14	1.14	355	87		9.5	
	3	3		1327.25	1.10.105	1.20	1.22	355	87		10.1	
	4	3		1331.14	1.08.104	1.19	1.22	355	87		10.1	
	5	3		1334.87	1.08.104	1.19	1.22	355	88		10.1	
I	1	3		1338.62	.08.28	.32	.26	335	90		4.5	
	2	3		1339.37	.08.28	.32	.28	335	94		4.8	
	3	3		1340.43	.08.28	.32	.32	335	94		5.0	
	4	3		1341.58	.30.55	.63	.62	335	96		6.2	
	5	3		1343.51	1.05.102	1.16	1.12	335	96		8.8	
VI	1	3		1346.69	.08.28	.32	.30	300	94		5.0	
	2	3		1348.31	.00.00	-	-	300	94		8.0	
	3	3		1348.31	.10.31	.35	.37	300	94		5.0	
	4	3		1349.45	.70.84	.96	.93	300	92		8.2	
	5	3		1352.56	1.20.110	1.25	1.30	300	92		11.0	

REMARKS:

PLANT TECO - GANNON
 DATE 11-6-73
 SAMPLING LOCATION UNIT #5
 SAMPLE TYPE _____
 RUN NUMBER DRY RUN #2
 OPERATOR _____
 AMBIENT TEMPERATURE _____
 BAROMETRIC PRESSURE _____
 STATIC PRESSURE, (P_s) _____
 FILTER NUMBER (s) THIMBLE #2

PROBE LENGTH AND TYPE _____
 NOZZLE I.D. 0.25"
 ASSUMED MOISTURE, % _____
 SAMPLE BOX NUMBER _____
 METER BOX NUMBER _____
 METER ΔH @ _____
 C FACTOR _____
 PROBE HEATER SETTING _____
 HEATER BOX SETTING _____
 REFERENCE Δp _____

SCHEMATIC OF TRAVERSE POINT LAYOUT
 READ AND RECORD ALL DATA EVERY 3 MINUTES

TRAVERSE POINT NUMBER	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V _m), ft ³	VELOCITY HEAD (ΔP _s), in. H ₂ O	METER RATE (CFM)		STACK TEMPERATURE (T _s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
				DESIRED	ACTUAL		INLET (T _{m in}), °F	OUTLET (T _{m out}), °F			
V	1	1357.88	.70	.84	.96	1.12	294	88	9.8		
	2	1360.34	.74	.86	.98	1.12	294	88	9.2		
	3	1363.37	1.12	1.06	1.21	1.19	294	87	10.0		
	4	1366.78	1.08	1.04	1.19	1.19	294	86	10.0		
	5	1370.31	1.12	1.06	1.21	1.19	294	86	10.0		
IV	1	1373.78	.64	.80	.91	.90	300	83	7.8		
	2	1376.76	.86	.93	1.06	1.01	300	83	8.8		
	3	1379.53	.90	.95	1.08	1.14	300	83	9.8		
	4	1382.74	.92	.96	1.09	1.07	300	83	9.0		
	5	1385.91	.95	.97	1.11	1.07	300	82	9.2		
		1389.17									
		AVERAGE:		.80			318	88	8.2		

RETS:

11-1-73

CALCULATIONS:

SUBSCRIPTS: m - MOISTURE RUN
1 - DRY RUN #1
2 - DRY RUN #2

$$\begin{array}{lll} VM_m = 82.84 \text{ ft}^3 & VM_1 = 76.61 \text{ ft}^3 & VM_2 = 84.80 \text{ ft}^3 \\ TM_m = 82^\circ\text{F} = 542^\circ\text{R} & TM_1 = 81^\circ\text{F} = 541^\circ\text{R} & TM_2 = 88^\circ\text{F} = 548^\circ\text{R} \\ V.P._m = 1.102 & V.P._1 = 1.066 & V.P._2 = 1.335 \\ PM_m = 6.6 & PM_1 = 8.7 & PM_2 = 8.2 \\ VWC_m = 7.76 \text{ ft}^3 & VWC_1 = 7.46 \text{ ft}^3 & VWC_2 = 7.99 \text{ ft}^3 \\ As = 167 \text{ ft}^2 & & \end{array}$$

MOISTURE IN METERED GAS:

$$BWM = \frac{(V.P.)(VM)}{P_B - P_M}$$

$$BWM_m = \frac{(1.102)(82.84)}{30 - 6.6} = 3.90 \text{ ft}^3$$

$$BWM_1 = 3.83 \text{ ft}^3$$

$$BWM_2 = 5.19 \text{ ft}^3$$

MOISTURE IN GAS STREAM:

$$BWO = \frac{VWC + BWM}{VWC + VM}$$

$$BWO_m = \frac{7.76 + 3.90}{7.76 + 82.84} = .13$$

$$BWO_1 = .13$$

$$BWO_2 = .14$$

DRY MET. VOLUME:

$$V_{MD} = V_M - B_{WM}$$

$$V_{MD_m} = 82.84 - 3.90 = 78.94 \text{ ft}^3$$

$$V_{MD_1} = 72.78 \text{ ft}^3$$

$$V_{MD_2} = 79.61 \text{ ft}^3$$

DRY METER VOLUME CORRECTED TO
STANDARD CONDITIONS:

$$V_{MDC} = V_{MD} \frac{528}{T_M} \frac{(P_B - P_M)}{30}$$

$$V_{MDC_m} = 78.94 \left(\frac{528}{542} \right) \left(\frac{30 - 6.6}{30} \right) = 59.98 \text{ ft}^3$$

$$V_{MDC_1} = 50.43 \text{ ft}^3$$

$$V_{MDC_2} = 55.74 \text{ ft}^3$$

STACK VOLUMETRIC FLOW RATE (ACFM):

$$Q_A = V_s \times 60 \times A_s = (53.0)(60)(167) = 531,060 \text{ ft}^3/\text{min}$$

STACK VOLUMETRIC FLOW RATE (SCFM):

$$Q_S = Q_A \times (1 - B_{W_{AVE}}) \left(\frac{528}{T_S} \right) \left(\frac{P_S}{30} \right)$$

note: T_S during pitot reading

$$Q_S = 531,060 (1 - .13) \left(\frac{528}{760} \right) \left(\frac{30}{30} \right) = 320,984 \text{ ft}^3/\text{min}$$

FROM LAB ANALYSIS:

MOISTURE RUN \rightarrow 3.599 GRAINS

DRY RUN #1 \rightarrow 7.769 "

DRY RUN #2 \rightarrow 12.002 "

GRAIN LOADING IN GAS STREAM:

$$C_s = \frac{\text{GRAINS}}{V_{MDC}}$$

$$C_{sm} = \frac{3.599}{59.98} = .0600 \text{ grains/SCF}$$

$$C_{s1} = .1541 \text{ grains/SCF} \quad C_{s2} = .2153 \text{ grains/SCF}$$

SOURCE EMISSIONS:

$$E = C_s \times Q_s \times 60 \times \frac{1}{7000}$$

$$E_m = .0600 \times 320,984 \times \frac{60}{7000} = 165.1 \text{ lbs/hr}$$

$$E_1 = 423.9 \text{ lbs/hr} \quad E_2 = 592.4 \text{ lbs/hr}$$

% ISOKINETIC SAMPLING:

$$A_n = .0003 \text{ ft}^2 \quad \theta = 5400 \text{ sec} \quad V_{SC} = 32.03 \text{ ft/sec}$$

$$\% I = \frac{100 \times V_{MDC}}{A_n \times \theta \times V_{SC}}$$

$$\% I_m = \frac{100 \times 59.98}{.0003 \times 5400 \times 32.03} = 115.6 \%$$

$$\% I_1 = 97.2 \%$$

$$\% I_2 = 107.4 \%$$

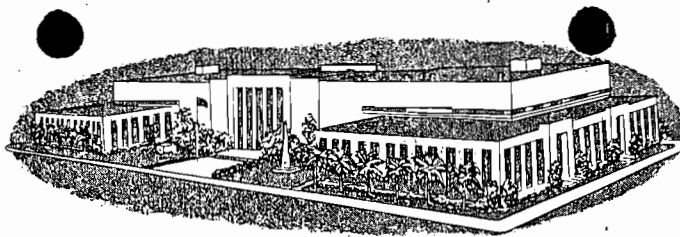
THE
BOARD OF COUNTY COMMISSIONERS

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TAMPA, FLORIDA 33601
TELEPHONE (813)223-1311



JAMES F. TAYLOR, JR.
CLERK

RUDY SPOTO
COUNTY ADMINISTRATOR



COUNTY OF HILLSBOROUGH

Tampa, Florida 33601



Company Sampled: Tampa Electric Company

Collection Date: December 7, 1973

Exact Source or Stack: Gannon Station, # 5 Generator

Collectors: Arturo McDonald, Dorian K. Valdes,
Joe Santos and Don Coleman

Date Samples Received: December 7, 1973 by Tom Cardinale

Results

RUN	THIMBLE (Net) GRAMS	IMPINGER SOLIDS (INSOLUBLE) GRAMS	IMPINGER DISSOLVED, SOLIDS, GRAMS	TOTAL GRAMS
M	NONE	.0564	.1770	.2334
#1	.1822	.0040	.3177	.5039
#2	.1218	.0339	.6227	.7784

Tom Cardinale

TOM CARDINALE
December 10, 1973



906 JACKSON STREET
TAMPA, FLORIDA 33602

HILLSBOROUGH COUNTY
ENVIRONMENTAL PROTECTION COMMISSION

In accordance with Section 10 of the Hillsborough County Environmental Protection Commission, please provide the following information:

Date 12/19/73

STATEMENT OF PROCESS WEIGHT

FIRM NAME Tampa Electric Company

ADDRESS Gannon No. 5

DATA ON OPERATING CYCLE TIME:

START OF OPERATION, TIME 0830, December 6, 1973

END OF OPERATION, TIME 1600, December 6, 1973

ELAPSED TIME, 7.5 Hours

IDLE TIME DURING CYCLE, MINUTES None

PROCESS RATING 1,725,561,688 BTU/Hr. (182 MW)

DATA ON MATERIAL CHARGED TO PROCESS DURING OPERATION CYCLE:

MATERIAL Coal WEIGHT, LBS. 1,142,857

MATERIAL _____ WEIGHT, LBS. _____

MATERIAL _____ WEIGHT, LBS. _____

MATERIAL _____ WEIGHT, LBS. _____

TOTAL WEIGHT, LBS. _____

I certify that the above statement is true to the best of my knowledge and belief:

SIGNATURE Jeff Rankin

TITLE Engineer, Environmental Planning

PROJECT PARTICIPANTS

Arturo McDonald Project Engineer
Dorian K. Valdes Environmental Engineer II
Tom Cardinale Senior Environmental
Scientist
Don Coleman Environmental Specialist
Joe Santos Co-op

TAMPA ELECTRIC COMPANY

JK

January 30, 1974

Mr. Roger P. Stewart, Director
Hillsborough County Environmental
Protection Commission
906 Jackson Street
Tampa, Florida 33602

RE: Compliance Schedule - Tampa Electric Company
Gannon Station Unit No. 5
Particulate Control
Permit No. A029-2191

File

Dear Mr. Stewart:

The fourth increment of progress (construction completion) for the subject project is January 30, 1974. This letter is to inform you that the precipitator is complete and all that remains is to tie it in with the boiler.

Due to the demand for electricity and the necessary outage of other units, we have been unable to remove Gannon No. 5 from service to make the final tie-in. Our present plans are to remove this unit from service in early June 1974 to do the remaining work. As it will take approximately eleven weeks to make the tie-in, test data will not be available to prove compliance by the July 30, 1974 final compliance date; but when the unit comes back on line the design of the precipitator indicates that the emission standard will be met. Stack testing would be done to prove the compliance as soon as possible after the unit comes back on line.

If you have any questions, please don't hesitate to contact us.

Yours very truly,



Alex Kaiser, Director
Power Plant Engineering &
Environmental Planning

cc: Mr. W. E. Linne ✓
West Central Region



Southwest Florida Water Management District

P. O. BOX 457 BROOKSVILLE, FLORIDA 33512

DERRILL McATEER, Chairman, Brooksville
S. C. BEXLEY, JR. Vice Chairman, Land O'Lakes
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ROBERT E. VAUGHN, Brandon
J. MASON WINES, Lakeland
Dale Twachtman, Executive Director

October 9, 1972

WEST CENTRAL REGION

Mr. R. D. Welch, Director
Power Plant Engineering and Construction
Tampa Electric Company
P.O. Box III
Tampa, Florida 33601

RE: Construction Permit Application for:

1. Precipitation Upgrading, Gannon Station Unit No. 5.
2. Precipitation Upgrading, Big Bend Station Unit No. 1.

Dear Sir:

The subject applications have been thoroughly reviewed by our staff. No items were found which require official comment.

Your cooperation in coordinating various types of applications and plans with this District is very helpful to us. We thank you for this continued policy.

Very truly yours,

DONALD R. FEASTER, P.E.
Director, Water Resources Division

Wendall B. Smith
BY: WENDALL B. SMITH
Chief, Hydrology Department

DRF:WBS:dsm