

Florida Department of
Environmental Protection

Memorandum

TO: Virginia B. Wetherell
THRU: Kirby Green
FROM: Howard L. Rhodes *HLR*
DATE: Septmber 1, 1995
SUBJ: Tampa Electric Company - Big Bend Unit 4
Permit Amendment - PSD-FL-040

Attached for your approval and signature is a permit amendment allowing Tampa Electric to burn a blend of coal and petroleum coke (petcoke) in Big Bend Unit 4. Big Bend Unit 4 is served by a sulfur dioxide scrubber with an overall removal efficiency of at least 90 %. Tampa Electric agreed to these limits and the amendment notice was published on June 17 with no adverse comments received. The final order modifying these same conditions in the power plant certification is being submitted concurrently by the Siting Group.

If you have any questions, we will be glad to discuss the details.

HLR/aal/l

Attachment



RECEIVED

AUG 4 1995

August 2, 1995

Bureau of
Air Regulation

Mr. Hamilton S. Oven, Administrator
Siting Coordination
Florida Department of Environmental Protection
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Certified Mail No. P 278 134 841
Return Receipt Requested

Mr. Al A. Linero
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Twin Towers Office Building
Tallahassee, Florida 32399-2400

Certified Mail No. P 278 134 842
Return Receipt Requested

Re: Tampa Electric Company
Big Bend Station-Unit 4
Permit Nos. PSD-FL-040 and PA 79-12C

Gentlemen:

Tampa Electric Company (TEC) is in receipt of the proposed language for the above referenced permits and offer the following comments:

Permit No. PA79-12C:

It appears that the last sentence of the first page of this final order has been cut off. The sentence should read: "The notice specified that a hearing would be held if a party to the original certification hearing objects within 45 days from receipt of the proposed modifications or if a person whose substantial interests will be affected by the proposed modifications objects in writing . . .".

Permit No. PSD-FL-040 and PA 79-12C:

With respect to Specific Condition 1.C. and Specific Condition 14 of the PSD and COC permits respectively, TEC wishes to clarify our understanding of the definition of representative actual emissions as defined in 40CFR 52.21(b)(33). In accordance with 40 CFR 52.21(b)(33)(ii), TEC will use the baseline years' (1993 and 1994) averaged gross generation compared to each of five years' actual gross generation to account for capacity

Mr. Hamilton Oven
Mr. Al A. Linero
August 2, 1995
Page 2 of 2

utilization. TEC will submit an annual representative emissions comparison in tons for SO₂, NO_x and PM to the Department and EPCHC. TEC believes the above methodology will ensure that the agencies have adequate information to make the appropriate determination according to the regulations.

If you have any questions in this matter, please feel free to call Ms. Janice Taylor or me at (813) 228-4839.

Sincerely,

A handwritten signature in cursive script that reads "Patrick A. Ho".

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

EP\gm\JKT731

c: John M. Reynolds, Jr. -FDEP, Tallahassee



RECEIVED

JUN 27 1995

June 21, 1995

Bureau of
Air Regulation

Mr. A. A. Linero
Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Drive, Suite 4
Tallahassee, Florida 32301

Certified Mail No. P 880 003 417
Return Receipt Requested

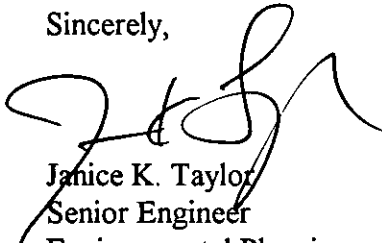
Re: Tampa Electric Company
Big Bend Station
Unit 4 PSD Amendment

Dear Mr. Linero:

Enclosed, please find proof of publication of the Notice of Intent to issue a permit amendment to PSD-FL-040 to allow the firing of 80% coal/20% petroleum coke blend. The notice was published in the legal ad section of the June 17, 1995 issue of the Tampa Tribune.

If you have any additional questions, please contact me at 813/228-4839.

Sincerely,



Janice K. Taylor
Senior Engineer
Environmental Planning

EPgmJKT715

Enclosure

c: Hamilton S. Owen-FDEP,
Tallahassee (enc.)

John R.
Clive H.
Bill T.

Jewell Harper
John Bunyak
Liz DeKen, EPC HC

THE TAMPA TRIBUNE

Published Daily

Tampa, Hillsborough County, Florida

State of Florida

County of Hillsborough } ss

Before the undersigned authority personally appeared R. Putney, who on oath says that he is Accounting Manager of The Tampa Tribune, a daily newspaper published at Tampa in Hillsborough County, Florida, that the attached copy of advertisement being a

LEGAL NOTICE

in the matter of _____

STATE OF FLORIDA

was published in said newspaper in the issues of _____

JUNE 17, 1995

Affiant further says that the said The Tampa Tribune is a newspaper published at Tampa in said Hillsborough County, Florida, and that the said newspaper has heretofore been continuously published in said Hillsborough County, Florida, each day and has been entered as second class mail matter at the post office in Tampa, in said Hillsborough County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm, or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Sworn to and subscribed before me, this 19 day of JUNE A.D. 1995

Personally Known _____ or Produced Identification _____
Type of Identification Produced _____

(SEAL)

at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code.

The application/request is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:
Department of Environmental Protection, Bureau of Air Regulation,
111 S. Magnolia Drive, Suite 4,
Tallahassee, Florida 32301
Department of Environmental Protection, Southwest District
8407 Laurel Fair Circle
Tampa, Florida 33619
Environmental Protection Commission of Hillsborough County, 1900 - 9th Avenue
Tampa, Florida 33805

Any person may send written comments on the proposed action to Mr. A. A. Lihner at the Department's Tallahassee address. All comments received within 30 days of the publication of this notice will be considered in the Department's final determination.

Further, a public hearing can be requested by any person(s). Such requests must be submitted within 30 days of this notice.

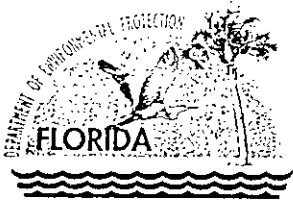
3220 6/17/95

ENVIRONMENTAL PROTECTION NOTICE OF INTENT TO ISSUE PERMIT AMENDMENT PSD-FL-040
The Department of Environmental Protection (Department) gives notice of its intent to issue a permit amendment to Tampa Electric Company, Inc., P.O. Box 111, Tampa, Florida 33601-0111. This company operates a coal-fired power generation facility located on Big Bend Road, near Ruskin, in Hillsborough County, Florida. The amendment allows the firing of a 80% coal/20% petroleum coke blend (by weight) in Big Bend Unit 4. Preliminary testing has shown that the existing air pollution control equipment is capable of controlling emissions such that no significant increase in air pollution from this source will occur. Therefore, this change will not cause or contribute to a violation of any air pollution standard or adversely affect the environment.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and, (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application/request have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

FACSIMILE TRANSMISSION SHEET

DATE 6/21/95

To: AL LINERO

Department _____

Phone _____ Fax 904-422-3474

From: J. KISSEL

DEP Southwest District Office - Air Program

Phone: (813) 744-6100 (Suncom 542-6100) Ext. 107

Operator: _____

Subject: ① BIG BEND 4 FINAL PSD PERMIT
② REASONING WHICH CHANGED .63 M/M Btu TO .82

ORIGINALS BEING SENT BY MAIL

Total Number of Pages, Including Cover Page: 9

DEP SWD AIR PROGRAM FAX NUMBER: (813) 744-6458
(SUNCOM 542-6458)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

PERMIT TO CONSTRUCT UNDER THE RULES FOR THE
PREVENTION OF SIGNIFICANT DETERIORATION OF AIR QUALITY

Pursuant to and in accordance with the provisions of Part C, Subpart 1 of the Clean Air Act, as amended, 42 U.S.C. § 7470 et seq., and the regulations promulgated thereunder at 40 C.F.R. § 52.21, as amended at 45 Fed. Reg. 52676, 52735-41 (August 7, 1980),

Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601

is hereby authorized to construct/modify a stationary source at the following location:

Big Bend Station, Unit 4
Tampa Electric Company
Ruskin, Florida

UTM Coordinates: 361.6 East, 3075.0 North

Upon completion of this authorized construction and commencement of operation/production, this stationary source shall be operated in accordance with the emission limitations, sampling requirements, monitoring requirements and other conditions set forth in the attached Specific Conditions (Part I) and General Conditions (Part II).

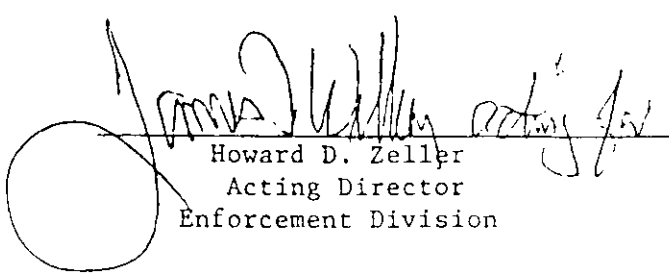
This permit shall become effective on November 14, 1981.

If construction does not commence within 18 months after the effective date of this permit, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time this permit shall expire and authorization to construct shall become invalid.

This authorization to construct/modify shall not relieve the owner or operator of the responsibility to comply fully with all applicable provisions of Federal, State, and Local law.

12/15/81

Date Signed


Howard D. Zeller
Acting Director
Enforcement Division

PART I: SPECIFIC CONDITIONS

1. The proposed steam generating station shall be constructed and operated in accordance with the capabilities and specifications of the application including the 417 megawatt net generating capacity and the 4330 MMBtu/hr heat input rate.
2. Emissions shall not exceed the allowable emission limits listed in Table 1 for SO₂, NO_x, PM, and CO.
3. Compliance with the boiler allowable emission limits required in Condition 2 will be demonstrated with performance tests conducted in accordance with the provisions of 40 CFR 60.46a, 48a and 49a, including applicable test methods, sampling procedures, sample volumes, sampling periods, etc. Compliance with opacity limits on the limestone and flyash handling system baghouse, the limestone day silos and the flyash silos will be determined with EPA reference method 9 (Appendix A, 40 CFR 60). These facilities are exempted from mass emission rate compliance tests unless opacity limits are exceeded or the Administrator (or his representative) otherwise determines that such performance testing is required. All facilities will operate within 10 percent of maximum operating capacity during performance tests.
4. The applicant will install and maintain continuous monitoring and recording opacity meter, sulfur dioxide and nitrogen oxide analyzers, oxygen and/or CO₂ analyzer in accordance with the provisions of 40 CFR 60.47a.

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EPA MODIF'N,
1988

5. The following requirements will be met to minimize fugitive emissions of particulate from the coal storage and handling facilities, the limestone storage and handling facilities, haul roads and general plant operations:
 - a. All conveyors and conveyor transfer points will be enclosed to preclude PM emissions excepting the coal handling stacker reclaimer, the tail end conveyor feeding the tripper and the barge unloading belt which are exempted for feasibility considerations;
 - b. Coal storage piles will be shaped, compacted and oriented to minimize wind erosion;
 - c. Water sprays for storage piles, handling equipment etc., including the handling equipment exempted from the conveyor enclosure requirement, will be applied during dry periods and as necessary to all facilities to maintain opacity (determined with reference Method 9) below 20 percent;
 - d. The limestone handling receiving hopper, conveyor transfer points and day silos will be maintained at negative pressures with the exhaust vented to a control system(s); and
 - e. The flyash handling system (including transfer and silo storage) will be maintained at negative pressures and vented to a control system.

6. The applicant will perform post-construction continuous ambient monitoring of sulfur dioxide emissions in accordance with EPA Region IV policies and procedures and the guidance offered in "Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD), EPA-450/2-78-019, May 1978 and the quality

assurance procedures of 40 CFR 58 Appendix 8. Such monitoring will be continued for a period of at least 1 year and until determined by the Administrator (or his representative) that the effects of the modification on ambient air quality have been quantified.

7. The applicant will comply with all requirements and provisions of the New Source Performance Standard for electric utility steam generating units (40 CFR 60 Part Da). In addition, the applicant must comply with the provisions and the requirements of the attached General Conditions.
8. While Tampa Electric Company has complied with the regulations entitling them to this PSD permit (40 CFR 52.21), this does not constitute an environmental endorsement of this permit nor does it in any way prejudice or predetermine the ongoing EIS review.
9. If it is determined through the NPDES permitting process or related EIS review, that cooling towers would be required for the construction and operation of the facility at this location, this permit would be revoked and a complete new application would be required addressing all new emissions and subsequent requirements for this new plant configuration.
10. The applicant must submit to EPA Region IV's Consolidated Permits Branch within five (5) working days after it becomes available, copies of all technical data pertaining to the selected control devices, including formal bids from vendors, guaranteed efficiencies or emission rates. Although the type of control equipment described in the application has been determined by EPA to be adequate, EPA may, upon review of the data, disapprove the application if EPA determines the selected devices to be inadequate to meet the emission limits specified in this conditional approval.
11. The applicant shall maintain records of all coal washing and preparation activities for any coal which is to be fired in Big Bend Unit No. 4. These reports shall be submitted to EPA on a quarterly basis.

TABLE 1
ALLOWABLE EMISSION LIMITS

<u>Facility</u>	<u>POLLUTANTS</u>								
	<u>SO₂</u>		<u>NO_x</u>		<u>PM</u>		<u>CO</u>		<u>Opacity</u>
	<u>lb/MMBtu</u>	<u>lb/hour</u>	<u>lb/MMBtu</u>	<u>lb/hr</u>	<u>lb/MMBtu</u>	<u>lb/hr</u>	<u>lb/MMBtu</u>	<u>lb/hr</u>	
1. Unit 4 Boiler (4330 MMBtu/hr) Continuous Limit					0.03	130	0.014	61	20% ^a
30 Day Rolling Average	0.82	3576	0.6	2598					
2. Limestone and Handling System Baghouse						0.65 ^b			5%
3. Limestone Day Silo						0.05 ^b			5%
4. Flyash Silos and Handling System						0.2 ^b			5%

^a Not to be exceeded for more than one six minute period per hour and never to exceed 27 percent opacity.

^b Exempt from compliance testing provided opacity limit is maintained.

TAMPA ELECTRIC COMPANY COMMENTS ON THE
PSD - FL - 040 APPLICATION PRELIMINARY DETERMINATION

II. LOCATION

o Page 1

The northern and southern property boundaries are not Big Bend Road and U.S. Highway 41. The site is located west of Highway 41 with plant properties both north and south of Big Bend Road.

III. PROJECT DESCRIPTION

o Page 1

Big Bend Unit 4 will have a net generating capacity of 417 MWe. The gross generating capacity will be 486 MWe. The maximum heat input rate is 4300 million BTU's per hour.

Coal washing facilities at the generating site were not included as part of the application and are not planned for Big Bend Station. The coal will be washed prior to delivery to Big Bend Station.

o Page 2

Due to the as-received moist nature of the limestone to be utilized at Big Bend Station and the rainfall amounts throughout the year, the limestone will be stored within a building.

IV. SOURCE IMPACT ANALYSIS

A. Best Available Control Technology Analysis (BACT)

1. Sulfur Dioxide Emissions Control

o Page 3

Five percent of the potential SO₂ Emissions are expected to remain in the ash.

o Pages 3 and 4

The calculated thirty day rolling average emission limitation of 0.63 lbs./MMBTU was based on fuel F-2B, a fuel utilized in specifying the Flue Gas Desulfurization (FGD) system. As noted on page 4-12 of Volume 2 in the application, the fuel quality analysis presented for fuel F-2B reflected a 25% removal of potential SO₂ emissions due to coal washing.

EPA concluded in the determination that 90% reduction in potential SO₂ emissions resulting from 25% removal by washing, 5% retention in the ash, and 86% removal by the FGD system constituted BACT. However, in calculating the SO₂ limitation based on the 90% removal criteria, EPA failed to recognize the washed condition of the coal. The EPA calculations are as follows:

Uncontrolled SO ₂ emissions	6.30 lbs./MMBTU	} 90% Removal
Emissions after washing	4.72 lbs./MMBTU	
Emissions after 5% ash retention	4.50 lbs./MMBTU	
Emissions after FGD system	0.63 lbs./MMBTU	

EPA began their 90% removal calculations with an uncontrolled SO₂ emission rate of 6.3 lbs./MMBTU which is actually an emission rate after coal washing. Thus, a 25% removal from coal washing was calculated twice. The calculations should have been made as follows:

Uncontrolled SO ₂ emissions	8.40 lbs./MMBTU	} 90% Removal
Emissions after washing	6.30 lbs./MMBTU	
Emissions after 5% ash retention	6.00 lbs./MMBTU	
Emissions after FGD system	0.84 lbs./MMBTU	

The correct emission limitation is 0.34 lbs./MMBTU. The 0.63 lbs./MMBTU calculated by EPA reflects an overall reduction in potential SO₂ emissions of 93%.

At the request of EPA, TECO submitted a proposed 30 day rolling average SO₂ emission limitation range of 0.77 to 0.82 lbs./MMBTU. This information was submitted based on data provided by the potential coal suppliers for Big Bend Unit 4. This value range is consistent with and below the above calculated emission limit of 0.84 lbs./MMBTU. EPA, however, rejected the TECO proposal as too high an emission limit and has required the incorrectly calculated emission limit of 0.63 lbs./MMBTU.

2. PARTICULATE MATTER (PM)

o Page 5

It is noted that during dry periods and high winds, water spraying of the coal pile and all drop points is required. It was proposed in the application that water spraying be utilized, for fugitive emissions control during high winds and dry periods. However, these techniques are not necessary control measures during all dry and high wind periods. When weather conditions that may require water spraying for fugitive emissions control are anticipated, arrangements are made for the services of a water tank truck.

The limestone to be utilized by the Unit 4 FGD System will be very moist. To avoid additional moisture from precipitation, the limestone storage pile will be enclosed within a building. Due to the moist, as-received, nature of the limestone, water spraying will not be necessary. The limestone conveyors will be covered or enclosed but venting to a control device is not necessary and has never been proposed. As noted in the application, the rail car/truck unloading facilities and the limestone day silos will be provided with exhaust systems venting to bag filters.

3. NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO)

o Page 5

An attachment to the Preliminary Determination specifies combustion control requirements to balance the tradeoffs between NO_x and CO emissions through the use of a flue gas oxygen monitor. This technique is not considered practical or feasible for a utility boiler. Big Bend Unit 4 and