



RECEIVED  
JUN 28 1995

Bureau of  
Air Regulation

June 26, 1995

Mr. Sayed Arif  
Florida Department of  
Environmental Protection  
Bureau of Air Regulation  
111 S. Magnolia Drive, Suite 4  
Tallahassee, Fl. 32301

Via Facsimile and  
Certified Mail No. P 880 003 421  
Return Receipt Requested

0570039

**Re: Tampa Electric Company (TEC)  
Big Bend Station-Unit Four  
Fuel Handling Modification, Case No. PA 79-12**

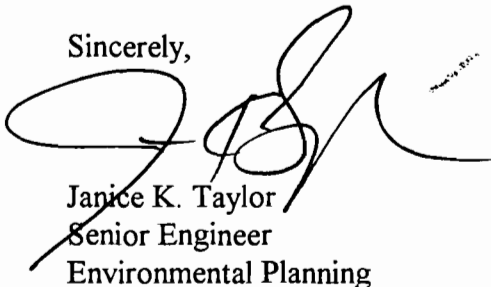
Dear Mr. Arif:

As we discussed, please find enclosed the draft proposed modification language for the above referenced project.

Based on our meeting of June 19, 1995, TEC understands that FDEP has no objection to TEC beginning the site preparation work related to this project on or after July 31, 1995.

TEC appreciates your and the Department's efforts in expediting the permit modification review. Please feel free to call me at (813) 228-4839 if you have any questions.

Sincerely,



Janice K. Taylor  
Senior Engineer  
Environmental Planning

EPgmJKT718

Enclosure

c: Hamilton S. Oven, FDEP

DRAFT

BEFORE THE STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

In Re: Tampa Electric Company	)	
Big Bend Station Unit 4	)	
Modification of Conditions	)	DER CASE NO. PA 79-12C
of Certification PA 79-12	)	OGC CASE NO. 94-0914
Hillsborough County, Florida	)	
_____)		

**FINAL ORDER MODIFYING  
CONDITIONS OF CERTIFICATION**

On August 17, 1981, the Governor and Cabinet, sitting as the Siting Board, issued a final order approving certification for Tampa Electric Company's (TECO's) Big Bend Station Unit 4. That certification order approved the construction and operation of a 486 MW (gross) coal-fired facility and associated facilities located in Hillsborough County, Florida.

~~On September 21, 1992, TECO filed a request to modify the conditions of certification pursuant to Section 403.516(1)(b), Florida Statutes. TECO requested that the conditions be modified to approve several recently identified changes to the project design and operation. These proposed changes include changes in the coal yard facility and alterations to the plant layout.~~ On January 13, 1995, TECO filed a request to amend the conditions of certification pursuant to Section 403.516(1)(b), Florida Statutes. TECO requested that the condition be modified to approve several changes in the project design and operations of the coal yard.

Copies of TECO's proposed modification were distributed to all parties to the certification proceeding and made available for public review in ~~February, 1993~~ June, 1995. On ~~March 5, 1993~~ June 30, 1995, Notice of Proposed Modification of power plant certification was published in the Florida Administrative Weekly. As of ~~February 22, 1993~~ June 23, 1995, all parties to the original

proceeding had received copies of the intent to modify. 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 notice of modification or if a person whose substantial interests will be affected by the proposed modifications objects in writing within 30 days after issuance of the public notice. No written objection to the proposed modifications has been received by the Department. Accordingly, in the absence of any timely objection,

**IT IS ORDERED:**

The proposed changes to TECO Big Bend Station as described in the ~~September 21, 1992,~~ ~~and June 30, 1993,~~ January 13, 1995, requests for modification are APPROVED. Pursuant to Section 403.516(1)(b), F.S., the conditions of certification for the TECO Big Bend Station are MODIFIED as follows:

Condition I.A.3.

a. Pursuant to Rule 17-296.310(2) Florida Administrative Code (F.A.C.), no owner or operator shall cause, permit, or allow visible emissions equal to or greater than 20% opacity of fugitive or unconfined particulate matter from any ~~coal~~ fuel processing or conveying equipment, ~~coal~~ fuel storage system, ~~coal~~ fuel transfer and loading system, or transloading source/emission point (i.e., off-loading or loading of ~~coal~~ fuel and ~~coal~~ fuel piles) associated with the processing of ~~coal~~ fuel. Initial and subsequent visible emissions compliance tests shall be demonstrated using EPA Reference Method 22 g, 40 CFR Part 60, Appendix A, Visual Determination of Fugitive Emissions from Material Sources (July 1, 1993 version).

b. The permittee shall submit ----

c. The ~~coal~~ fuel pile operations are subject to Rule 17-296.310(3), F.A.C., Unconfined Emissions of Particulate Matter. Reasonable precautions to minimize unconfined particulate matter shall be in accordance with Rule 17-296.310(3)(c), F.A.C.; and, may include, but shall not be limited to, the coating of roads and construction sites used by contractors and regrassing or watering areas of disturbed ~~coal~~ fuel.

d. From each ~~coal~~ fuel transloading source/emissions point (i.e., off-loading and loading of ~~coal~~ fuel), the maximum annual transloading transfer of ~~coal~~ fuel shall not exceed 4,000 tons, 24-hour rolling average.

e. From each ~~coal~~ fuel transloading source/emissions point (i.e., off-loading and loading of ~~coal~~ fuel), the maximum annual transloading transfer of ~~coal~~ fuel shall not exceed 1,428,030 tons.

f. The number of railcars and trucks and the quantity of ~~coal~~ fuel loaded by each ~~coal~~ fuel transloading source/emissions point (i.e., off-loading and loading of ~~coal~~ fuel) shall be recorded, maintained, and kept on file for a minimum of two years. The annual quantity of ~~coal~~ fuel loaded by each ~~coal~~ fuel transloading source/emissions point shall be submitted in an annual operation report (AOR) to the Environmental Protection Commission of Hillsborough County by March 1 of each year for the previous year's operation.

Any party to this Notice has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the clerk of the Department of Environmental Protection in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of

**DRAFT**

the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date that the Final Order is filed with the Department of Environmental Protection.

DONE AND ENTERED this \_\_\_\_\_ day of \_\_\_\_\_, 1995 in Tallahassee, Florida.

**STATE OF FLORIDA, DEPARTMENT  
OF ENVIRONMENTAL PROTECTION**

---

VIRGINIA B. WETHERELL  
SECRETARY  
3900 Commonwealth Boulevard  
Tallahassee, FL 32399-3000

DRAFT

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing was sent by U.S. Mail to the following this \_\_\_\_\_ day of \_\_\_\_\_, 1995.

Lawrence N. Curtin, Esquire  
Holland & Knight  
P.O. Drawer 810  
Tallahassee, FL 32302

Karen Brodeen, Esquire  
Department of Community Affairs  
2740 Centerview Drive  
Tallahassee, FL 32399-2100

Martin D. Hernandez, Esquire  
Southwest Florida Water  
Management District  
2379 Broad Street  
Brooksville, FL 34609-6899

Greg Nelson, P.E.  
Tampa Electric Company  
P.O. Box 111  
Tampa, FL 33601-0111

Michael Palecki  
Division of Legal Services  
Public Service Commission  
101 East Gaines Street  
Fletcher Building, Room 212  
Tallahassee, FL 32399-0850

Sara M. Fotopulos, Esquire  
Environmental Protection Commission  
of Hillsborough County  
1900 Ninth Avenue  
Tampa, FL 33605

---

Richard Donelan, Esquire  
Department of Environmental  
Protection  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400  
(904) 488-9314



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

JUL 11 1988

4APT/APB-aes

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Mr. Jerry L. Williams, Environmental Director  
Tampa Electric Company  
P.O. Box 111  
Tampa, Florida 33601-0111

Re: Tampa Electric Company, Big Bend Unit No. 4 (PSD-FL-040)

Dear Mr. Williams:

This is in response to your May 27, 1988, letter regarding the generating capacity restrictions contained in your federal PSD permit PSD-FL-040. We have reviewed your request to remove these restrictions and find that the changes will not in any way reduce the enforceability of the permit or affect the level of emissions generated. We hereby modify your federal PSD permit PSD-FL-040 as follows:

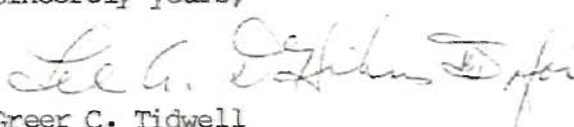
Part I: Specific Conditions

1. The proposed steam generating station shall be constructed and operated in accordance with the capabilities and specifications of the application, and the heat input to the No. 4 boiler shall not exceed 4330 mmBtu/hr.

Please be advised that the modification to your PSD permit herein described shall become a binding part of permit PSD-FL-040. This permit modification shall become effective upon receipt of this letter.

If you have any questions or comments regarding this permit modification, please contact me at (404) 347-4727 or Mr. Bruce P. Miller of my staff at (404) 347-2864.

Sincerely yours,

  
Greer C. Tidwell  
Regional Administrator

cc: Steve Smallwood, Chief  
Bureau of Air Quality  
Florida Department of Environmental Regulation

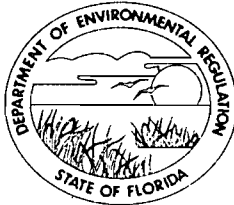
RECEIVED

JUL 18 1988

DER-BAQM

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

May 6, 1985

Mr. James T. Wilburn, Chief  
Air Management Branch  
USEPA-Region IV  
345 Courtland Street, N.E.  
Atlanta, Georgia 30365

Re: Modification to PSD-FL-040  
TECO Big Bend Unit 4

Dear Mr. Wilburn:

This is to acknowledge the receipt of your March 12, 1985 letter requesting a public notice to be published prior to a modification of the above referenced permit.

Tampa Electric Company (TECO) requested that the carbon monoxide (CO) emission limits contained in this permit be changed to correct an error when an incorrect emission factor was used in their application. The correction of this error will result in a theoretical significant increase in the CO emission limits. At your request, we have enclosed a copy of the proof of publication so you can proceed to revise the PSD permit to reflect the emission change for CO.

Should you require any further information, please feel free to contact me.

Sincerely,

C. H. Fancy, P.E.  
Deputy Chief  
Bureau of Air Quality  
Management

CHF/ES/s

cc: Richard Garrity  
Iwan Choronenko  
Jerry Williams

attachment





DER  
MAY 3 1985  
BAQM

May 1, 1985

Mr. C.H. Fancy, P.E.  
State of Florida  
Department of Environmental  
Regulation  
Bureau of Air Quality  
Management  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32301

Re: Proof of Public Notice  
Modification to PSD-FL-040  
Big Bend Unit #4

Dear Mr. Fancy:

Please find attached a copy of the "Public Notice" for the above refer-  
enced source as published in the Tampa Tribune on Saturday, April 20,  
1985.

If you have any questions, please call.

Sincerely,

A. Spencer Autry  
Manager  
Environmental Planning

ASA/jst/024/3

attached

cc: Richard Garrity  
Iwan Choronenko

RECEIVED

MAY 01 1985

ENVIRONMENTAL  
PLANNING

THE TAMPA TRIBUNE

Published Daily  
Tampa, Hillsborough County, Florida

State of Florida }  
County of Hillsborough } ss.

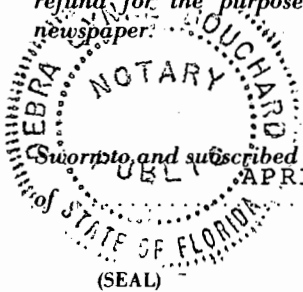
Before the undersigned authority personally appeared  
G. T. Gleason, who on oath says that he is Controller of The Tampa Tribune, a daily  
newspaper published at Tampa in Hillsborough County, Florida; that the attached copy  
of advertisement being a

LEGAL NOTICE

in the matter of PUBLIC NOTICE BY THE TAMPA ELECTRIC  
COMPANY REQUESTED THAT THEIR PREVENTION OF  
SIGNIFICANT DETERIORATION PERMIT (PSD-FL-040)

was published in said newspaper in the issues of  
APRIL 20th, 1985

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 publica-  
tion 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.



G. T. Gleason

Sworn to and subscribed before me, this 22nd day  
of APRIL 1985

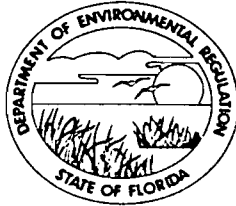
Debra Anne Bouchard  
Notary Public, State of Florida

My Commission Expires Jan. 6, 1989  
Bonded Thru Troy Fain - Insurance, Inc.

**PUBLIC NOTICE**  
On January 30, 1985, the Tampa Electric Company requested that their Prevention of Significant Deterioration permit (PSD-FL-040) for the coal-fired boiler, Unit 4, at the Big Bend facility near Ruskin, Florida, be revised. The requested revision will result in a projected increase of 271 tons per year of carbon monoxide.  
EPA has reviewed the proposal to increase emissions. The increase is due to an error in emissions calculations for this source and no process or structural modifications are involved. The projected increase in emissions from 272 tons per year to 543 tons per year of carbon monoxide will increase the ambient concentration (24 hour average) to approximately 575 ug/m3. The significant level for carbon monoxide is 575 ug/m3 and therefore, no adverse impacts are expected due to the increase. The best available control technology has been determined to be proper combustion controls and is not changed in this proposed revision.  
Any person may submit written comments regarding this proposed permit revision. All comments must be received not later than 30 days from the date of this notice in order to be considered. A public hearing may be held if sufficient justification is provided, as determined by the Administrator. Letters should be addressed to:  
Mr. Clair Fancy, P.E.  
State of Florida  
Department of  
Environmental Regulation  
Bureau of Air  
Quality Management  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32304  
2111 4/20/85

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

April 19, 1985

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Jerry L. Williams  
Environmental Director  
Tampa Electric Company  
P. O. Box 111  
Tampa, Florida 33601

Dear Mr. Williams:

Re: Big Bend Unit 4 - Requested Variation in Raw-Coal  
Sample Requirement - DER File ASP-85-B01

On February 5, 1985, we notified you that the Environmental Protection Agency (EPA) had forwarded your December 4, 1984, request for a change in the raw-coal sampling requirement for Big Bend Unit 4 to the department, and that we intended to process the request under the provisions of Rule 17-2.700(3), Exceptions and Approval of Alternate Procedures and Requirements. Recently, we learned that EPA considers your request a minor variation within the requirements of Method 19, and therefore, not subject to formal review and approval by the EPA Administrator or his designee. Consequently, we have determined that your request need not undergo the formal review process as contained in Rule 17-2.700(3).

By this letter, the department approves your request provided the following conditions are met:

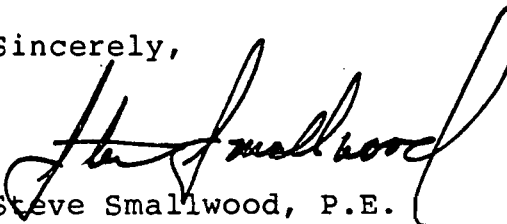
1. Daily raw coal samples shall be collected from each mine's (Ziegler's and Peabody's) coal washing facility throughout the quarter.
2. The supplier shall sample the raw coal conveyor belt at least once per day when coal is being washed for Tampa Electric Company.
3. The daily sampling times shall be randomly selected.

Mr. Jerry L. Williams  
Page Two  
April 19, 1985

4. The sample shall consist of a block section of raw coal of 5 feet in length by the entire width of the belt, taken at locations as shown in Figures 1 and 2 (attached).
5. The ASTM coal analysis procedures required by Method 19 shall be utilized.
6. In computing the pretreatment credit, a weighted average for the two mines shall be used.

Pursuant to Section 120.57, Florida Statutes, you have a right to petition for an administrative determination on this approval and its conditions. The petition must conform to the requirements of Chapters 17-103 and 28-5, FAC, and must be filed (received) in the department's Office of General Counsel within fourteen (14) days of receipt of this letter. Failure to file a petition within fourteen (14) days constitutes a waiver of any right you have to an administrative determination pursuant to Section 120.57, Florida Statutes.

Sincerely,



Steve Smallwood, P.E.  
Chief  
Bureau of Air Quality  
Management

SS/LG/rw

cc: Bill Blommel, DER - BAQM  
Buck Owen, DER, PPS  
Bill Thomas, DER - Tampa  
Jerry Campbell, HCEPC  
Brian Beals, EPA

*File Copy*

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

April 19, 1985

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

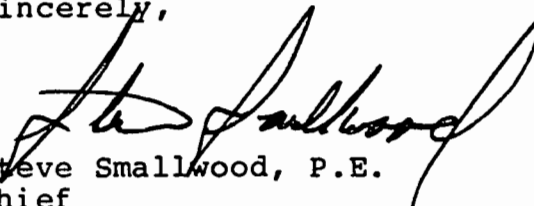
Mr. Jerry L. Williams  
Environmental Director  
Tampa Electric Company  
P. O. Box 111  
Tampa, Florida 33601

Dear Mr. Williams:

Re: Our letter to you, dated 4/11/85, concerning Big Bend Unit 4-  
Requested Variation in Raw-Coal Sample Requirement -  
DER File ASP-85-B01

Please note on the above referenced letter (copy attached),  
two errors. On page one, approximately mid-page, 17-2.300(3)  
should read 17-2.700(3). The same error will be found in the last  
sentence of the same paragraph. A corrected copy of this letter  
is also attached.

Sincerely,

  
Steve Smallwood, P.E.  
Chief  
Bureau of Air Quality  
Management

SS/rw

cc: Bill Blommel  
Buck Oven ✓  
Bill Thomas  
Jerry Campbell  
Brian Beals

Form 3811, July 1983

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box (es) for service(s) requested.

1.  Show to whom, date and address of delivery.
2.  Restricted Delivery.

3. Article Addressed to:  
 Jerry Williams  
 Tampa Electric  
 P.O. Box 111  
 Tampa, FL 33601

4. Type of Service:	Article Number
<input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail	0158696

Always obtain signature of addressee or agent and **DATE DELIVERED.**

5. Signature - Addressee  
 X

6. Signature - Agent  
 X *F. Uddy*

7. Date of Delivery  
 APR 26 1995

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

DOMESTIC RETURN RECEIPT

No. 0158696  
 RECEIPT FOR CERTIFIED MAIL  
 NO INSURANCE COVERAGE PROVIDED—  
 NOT FOR INTERNATIONAL MAIL  
 (See Reverse)

SENT TO		Jerry Williams		
STREET AND NO.		Tampa Electric		
P.O., STATE AND ZIP CODE		PO Box 111 TPA, FL 33601		
POSTAGE		\$		
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢		
	SPECIAL DELIVERY	¢		
	RESTRICTED DELIVERY	¢		
	OPTIONAL SERVICES	RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED	¢
			SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
			SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
		SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢	
TOTAL POSTAGE AND FEES		\$		
POSTMARK OR DATE				

PS Form 3800, Apr. 1976

Incorrect

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

April 11, 1985

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Jerry L. Williams  
Environmental Director  
Tampa Electric Company  
P. O. Box 111  
Tampa, Florida 33601

Dear Mr. Williams:

Re: Big Bend Unit 4 - Requested Variation in Raw-Coal  
Sample Requirement - DER File ASP-85-B01

On February 5, 1985, we notified you that the Environmental Protection Agency (EPA) had forwarded your December 4, 1984, request for a change in the raw-coal sampling requirement for Big Bend Unit 4 to the department, and that we intended to process the request under the provisions of Rule 17-2.30003), Exceptions and Approval of Alternate Procedures and Requirements. Recently, we learned that EPA considers your request a minor variation within the requirements of Method 19, and therefore, not subject to formal review and approval by the EPA Administrator or his designee. Consequently, we have determined that your request need not undergo the formal review process as contained in Rule 17-2.30003).

By this letter, the department approves your request provided the following conditions are met:

1. Daily raw coal samples shall be collected from each mine's (Ziegler's and Peabody's) coal washing facility throughout the quarter.
2. The supplier shall sample the raw coal conveyor belt at least once per day when coal is being washed for Tampa Electric Company.
3. The daily sampling times shall be randomly selected.

Mr. Jerry L. Williams  
Page Two  
April 11, 1985

4. The sample shall consist of a block section of raw coal of 5 feet in length by the entire width of the belt, taken at locations as shown in Figures 1 and 2 (attached).
5. The ASTM coal analysis procedures required by Method 19 shall be utilized.
6. In computing the pretreatment credit, a weighted average for the two mines shall be used.

Pursuant to Section 120.57, Florida Statutes, you have a right to petition for an administrative determination on this approval and its conditions. The petition must conform to the requirements of Chapters 17-103 and 28-5, FAC, and must be filed (received) in the department's Office of General Counsel within fourteen (14) days of receipt of this letter. Failure to file a petition within fourteen (14) days constitutes a waiver of any right you have to an administrative determination pursuant to Section 120.57, Florida Statutes.

Sincerely,

Steve Smallwood, P.E.  
Chief  
Bureau of Air Quality  
Management

SS/LG/rw

cc: Bill Blommel, DER - BAQM  
Buck Oven, DER, PPS  
Bill Thomas, DER - Tampa  
Jerry Campbell, HCEPC  
Brian Beals, EPA



STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING  
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TALLAHASSEE, FLORIDA 32301-8241



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VICTORIA J. TSCHINKEL  
SECRETARY

April 11, 1985

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Environmental Director  
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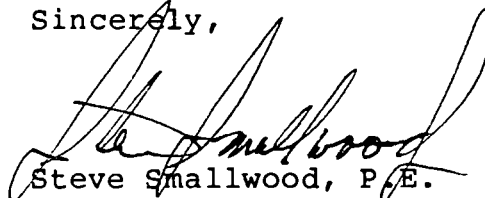
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April 11, 1985

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Sincerely,



Steve Smallwood, P.E.  
Chief  
Bureau of Air Quality  
Management

SS/LG/rw

cc: Bill Blommel, DER - BAQM  
Buck Oven, DER, PPS  
Bill Thomas, DER - Tampa  
Jerry Campbell, HCEPC  
Brian Beals, EPA

PS Form 3811, July 1983

**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

- Show to whom, date and address of delivery.
- Restricted Delivery.

3. Article Addressed to:  
 Mr. Jerry L. Williams  
 Tampa Electric Co.  
 P.O. Box 111  
 Tampa, FL 33601

4. Type of Service:      Article Number  
 Registered       Insured  
 Certified       COD      0158695  
 Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee  
 X

6. Signature - Agent  
 X

7. Date of Delivery      APR 29 1985

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

DOMESTIC RETURN RECEIPT



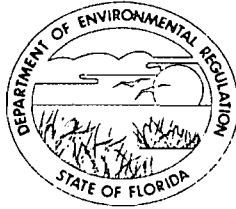
No. 0158695  
 RECEIPT FOR CERTIFIED MAIL  
 NO INSURANCE COVERAGE PROVIDED—  
 NOT FOR INTERNATIONAL MAIL  
 (See Reverse)

SENT TO		Jerry L. Williams		
STREET AND NO.		Tampa Elect. P.O. Box 111		
P.O. STATE AND ZIP CODE		Tampa, FL 33601		
POSTAGE		\$		
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢		
	SPECIAL DELIVERY	¢		
	RESTRICTED DELIVERY	¢		
	OPTIONAL SERVICES RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED	¢	
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢	
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY		¢		
	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢		
TOTAL POSTAGE AND FEES		\$		
POSTMARK OR DATE				

PS Form 3800, Apr. 1976

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

March 27, 1985

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Jerry L. Williams, Environmental Director  
Tampa Electric Company  
P.O. Box 111  
Tampa, Florida 33601

RE: Request for permit modification to PSD-FL-040,  
Big Bend Unit 4

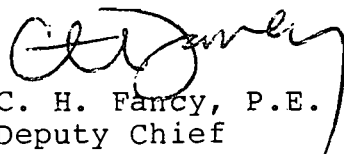
Dear Mr. Williams:

On February 4, 1985, the Bureau of Air Quality Management received your request to modify the carbon monoxide limits for permit PSD-FL-040. Because this change concerns a federal PSD permit, your request was forwarded to the EPA in Atlanta for their review and comments.

Because this change will result in a theoretical significant increase in carbon monoxide emissions, a public notice will need to be published regarding this change. Please use the sample public notice attached to this letter and provide us with a proof of publication so that we can finish processing the requested change.

If you have any questions, please write to me at the above address, or call Edward Svec, Review Engineer, at (904)488-1344.

Sincerely,

  
C. H. Fancy, P.E.  
Deputy Chief  
Bureau of Air Quality  
Management

CHF/ES/rw

Attachment

cc: Richard Garrity  
Iwan Choronenko



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

MAR 12 1985

REF: APT-AM

DER  
MAY 1985  
ROOM

Mr. Clair H. Fancy, Deputy Chief  
Bureau of Air Quality Management  
Florida Department of Environmental  
Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32301

RE: PSD-FL-040 TECO Big Bend Unit 4

Dear Mr. Fancy:

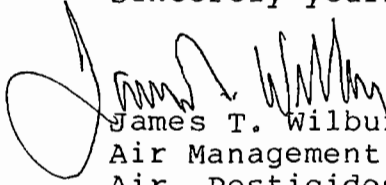
This is to acknowledge receipt of your February 8, 1985, letter requesting the modification of the federal Prevention of Significant Deterioration (PSD) permit (PSD-FL-040) issued for the construction of the coal-fired boiler, Unit 4, at the Tampa Electric Company's (TECO) Big Bend facility near Ruskin, Florida. The permit issued on October 15, 1981, contained carbon monoxide (CO) emission limits for the unit based on estimates provided by the company in which an incorrect emission factor was used.

The PSD preliminary and final determinations for Unit 4 at the TECO Big Bend facility reflected CO emission estimates which appeared in the TECO application. The company used the wrong emission factor from the EPA document "Compilation of Air Pollutant Emission Factors" (AP-42). As a result, there was an underestimation of CO emissions in the original review. The requested modification would theoretically increase CO emissions from 272 tons per year to 543 tons per year and will increase the ambient concentration (8-hour average) to approximately  $16 \text{ ug/m}^3$ . The significant level for CO is  $575 \text{ ug/m}^3$ , 8-hour average and therefore, no adverse impacts are expected due to the increase. The best available control technology has been determined to be proper combustion controls and has not been changed in this proposed revision. As the correction of this error will result in a theoretical significant increase in CO emissions (271 tons per year), a public notice will need to be published regarding this change. For your convenience, enclosed is a sample public notice which may be used. Please provide us a copy of the proof of publication so that we may proceed to revise the PSD permit to reflect the emission change for CO.

-2-

If you have any questions regarding this letter, you may contact me or Wayne J. Aronson, New Source Review Team Leader, at 404/881-4552.

Sincerely yours,



James T. Wilburn, Chief  
Air Management Branch  
Air, Pesticides, and Toxics  
Management Division

Enclosure

PUBLIC NOTICE

On January 30, 1985, the Tampa Electric Company requested that their Prevention of Significant Deterioration permit (PSD-FL-040) for the coal-fired boiler, Unit 4, at the Big Bend facility near Ruskin, Florida, be revised. The requested revision will result in a projected increase of 271 tons per year of carbon monoxide.

EPA has reviewed the proposal to increase emissions. The increase is due to an error in emissions calculations for this source and no process or structural modifications are involved. The projected increase in emissions from 272 tons per year to 543 tons per year of carbon monoxide will increase the ambient concentration (8-hour average) to approximately 16 ug/m<sup>3</sup>. The significant level for carbon monoxide is 575 ug/m<sup>3</sup> and therefore, no adverse impacts are expected due to the increase. The best available control technology has been determined to be proper combustion controls and is not changed in this proposed revision.

Any person may submit written comments regarding this proposed permit revision. All comments must be received not later than 30 days from the date of this notice in order to be considered. A public hearing may be held if sufficient justification is provided, as determined by the Administrator. Letters should be addressed to:

Mr. Clair Fancy, P.E.  
State of Florida Department of  
Environmental Regulation  
Bureau of Air Quality Management  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32301

PS Form 3811, July 1983

**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

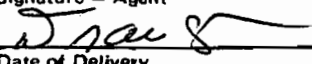
1.  Show to whom, date and address of delivery.  
 2.  Restricted Delivery.

3. Article Addressed to:  
 Mr. Jerry L. Williams  
 Tampa Electric Company  
 P. O. Box 111  
 Tampa, Florida 33601

4. Type of Service:	Article Number
<input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail	0155535

Always obtain signature of addressee or agent and **DATE DELIVERED.**

5. Signature - Addressee  
 X

6. Signature - Agent  
 X 

7. Date of Delivery  
 APR 10 1985

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

DOMESTIC RETURN RECEIPT

No. 0155535  
 RECEIPT FOR CERTIFIED MAIL  
 NO INSURANCE COVERAGE PROVIDED—  
 NOT FOR INTERNATIONAL MAIL  
 (See Reverse)

SENT TO		Mr. Jerry L. Williams	
STREET AND NO.			
P.O. STATE AND ZIP CODE			
POSTAGE		\$	
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢	
	SPECIAL DELIVERY	¢	
	RESTRICTED DELIVERY	¢	
	OPTIONAL SERVICES RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED	¢
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		SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		¢	
TOTAL POSTAGE AND FEES		\$	
POSTMARK OR DATE		4/3/85	

PS Form 3800, Apr. 1976



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

February 8, 1985

Mr. James T. Wilburn, Chief  
Air Management Branch  
USEPA - Region IV  
345 Courtland Street, N.E.  
Atlanta, Georgia 30365

Re: Request from Tampa Electric Company  
to Modify PSD-FL-040

Dear Mr. Wilburn:

The Bureau of Air Quality Management received a request from Tampa Electric Company on February 4, 1984, to modify their federal permit, PSD-FL-040, for their Big Bend Station Unit 4 in Ruskin, Florida. In their permit application, Tampa Electric used an incorrect emission estimate from AP-42 which underestimated the emissions of CO by a factor of two.

After reviewing this request, the bureau recommends that Table 1 of permit PSD-FL-040 be modified to reflect the proper AP-42 emission factor CO as follows:

From:

<u>Facility</u>	<u>Pollutants</u>	
	<u>CO</u>	
	<u>lb/MMBtu</u>	<u>lb/hr</u>
1. Unit 4 Boiler (4330 MMBtu/hr) Continuous Limit	0.014	61


To:

<u>Facility</u>	<u>Pollutants</u>	
	<u>CO</u>	
	<u>lb/MMBtu</u>	<u>lb/hr</u>
1. Unit 4 Boiler (4330 MMBtu/hr) Continuous Limit	0.029	124

Mr. James T. Wilburn  
Page Two  
February 8, 1985

Should you require any further information, please feel free to contact me.

Sincerely,



C. H. Fancy, P.E.  
Deputy Chief  
Bureau of Air Quality  
Management

CHF/ES/s

cc: Richard Garrity  
Iwan Choronenko  
Jerry Williams

attachment



January 30, 1985

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

RE: Request for Permit Modification  
Big Bend Station Unit 4  
Tampa Electric Company  
PSD-FL-040

Dear Mr. Smallwood:

As you are probably aware, Tampa Electric Company is in the final stages of constructing a 417 MW (net) coal fired electric generating unit at the Big Bend Station in Ruskin, Florida. The commercial operation date for this new unit, Big Bend Unit 4, is expected to be in March of 1985.

In anticipation of our upcoming commercial operation of Unit 4, Tampa Electric Company has been reviewing all permitting associated with the new unit. On reviewing the above referenced Prevention of Significant Deterioration (PSD) permit and associated application documents, a calculation error was identified in the PSD application emissions estimate for carbon monoxide (CO). In the application, an incorrect emission factor from the EPA document Compilation of Air Pollutant Emission Factors, AP-42, was inadvertently used to estimate the CO emissions. The use of the incorrect emission factor lead to an underestimation of the CO emissions by a factor of two. Attachment I contains the calculations for the corrected estimate.

As seen in Attachment I, the CO emission rate is expected to be approximately 124 lb/hr and 0.029 lb/MMbtu.

DER .  
FEB 4 1985  
BAQM

Mr. Steve Smallwood  
January 30, 1985  
Page Two

Tampa Electric Company requests a modification of the CO limits listed in Table 1 of permit number PSD-FL-040 to reflect the corrected estimate. Attachment II contains the corrected pages to our PSD application.

If you should have any questions please feel free to call me.

Sincerely,



Jerry L. Williams  
Director  
Environmental

JLW/jbj/047/1

Attachment

cc: Dr. Richard Garrity (DER)

CARBON MONOXIDE (CO) EMISSIONS ESTIMATE  
BIG BEND STATION UNIT 4  
PSD-FL-040

Fuel input rate at 100% load = 413,000  $\frac{\text{lbs coal}}{\text{hour}}$

Heat input rate at 100% load = 4330  $\frac{\text{MMbtu}}{\text{hour}}$

CO emission factor = 0.6  $\frac{\text{lbs CO}^*}{\text{ton coal}}$

$$(a) \quad 413,000 \frac{\text{lbs coal}}{\text{hour}} \times \frac{1}{2000} \frac{\text{tons coal}}{\text{lbs coal}} \times 0.6 \frac{\text{lbs CO}^{**}}{\text{ton coal}} \\ = 123.9 \frac{\text{lbs CO}}{\text{hour}}$$

$$(b) \quad 123.9 \frac{\text{lbs CO}}{\text{hour}} \times \frac{1}{4330} \frac{\text{hour}}{\text{MMbtu}} = 0.0286 \frac{\text{lbs CO}}{\text{MMbtu}}$$

---

\* Compilation of Air Pollutant Emission Factors, AP-42. See Table 1.1-1. attached.

\*\* In the previously submitted and approved PSD application an emission factor of 0.3  $\frac{\text{KgCO}}{\text{Mg Coal}}$  was mistakenly used as 0.3  $\frac{\text{lb CO}}{\text{Ton Coal}}$ . See Table 1.1-1. attached.

TABLE 1.1-1. EMISSION FACTORS FOR EXTERNAL BITUMINOUS AND SUBBITUMINOUS COAL COMBUSTION<sup>a</sup>

Firing Configuration	Particulate <sup>b</sup>		Sulfur Oxides <sup>c</sup>		Nitrogen Oxides <sup>d</sup>		Carbon Monoxide <sup>e</sup>		Nonmethane VOC <sup>e,f</sup>		Methane <sup>e</sup>	
	kg/Mg	lb/ton	kg/Mg	lb/ton	kg/Mg	lb/ton	kg/Mg	lb/ton	kg/Mg	lb/ton	kg/Mg	lb/ton
Pulverized coal fired												
Dry bottom	5A	10A	19.5S(17.5S)	39S(35S)	10.5(7.5) <sup>g</sup>	21(15) <sup>g</sup>	0.3	0.6	0.04	0.07	0.015	0.03
Wet bottom	3.5A <sup>h</sup>	7A <sup>h</sup>	19.5S(17.5S)	39S(35S)	17	34	0.3	0.6	0.04	0.07	0.015	0.03
Cyclone furnace	1A <sup>h</sup>	2A <sup>h</sup>	19.5S(17.5S)	39S(35S)	18.5	37	0.3	0.6	0.04	0.07	0.015	0.03
Spreader stoker												
Uncontrolled	30 <sup>i</sup>	60 <sup>i</sup>	19.5S(17.5S)	39S(35S)	7	14	2.5	5	0.04	0.07	0.015	0.03
After multiple cyclone												
With flyash reinjection from multiple cyclone	8.5	17	19.5S(17.5S)	39S(35S)	7	14	2.5	5	0.04	0.07	0.015	0.03
No flyash reinjection from multiple cyclone	6	12	19.5S(17.5S)	39S(35S)	7	14	2.5	5	0.04	0.07	0.015	0.03
Overfeed stoker <sup>j</sup>												
Uncontrolled	8 <sup>k</sup>	16 <sup>k</sup>	19.5S(17.5S)	39S(35S)	3.25	7.5	3	6	0.04	0.07	0.015	0.03
After multiple cyclone	4.5	9	19.5S(17.5S)	39S(35S)	3.25	7.5	3	6	0.04	0.07	0.015	0.03
Underfeed stoker												
Uncontrolled	7.5 <sup>l</sup>	15 <sup>l</sup>	15.5S	31S	4.75	9.5	5.5	11	0.65	1.3	0.4	0.8
After multiple cyclone	5.5	11	15.5S	31S	4.75	9.5	5.5	11	0.65	1.3	0.4	0.8
Handfired units	7.5	15	15.5S	31S	1.5	3	45	90	5	10	4	8

<sup>a</sup> Factors represent uncontrolled emissions unless otherwise specified and should be applied to coal consumption as fired.

<sup>b</sup> Based on EPA Method 5 (front half catch) as described in Reference 12. Where particulate is expressed in terms of the coal ash content (A), the factor is determined by multiplying the weight % ash content of the coal (as fired) by the numerical value preceding the "A". For example, if a coal having 8% ash is fired in a dry bottom unit, the particulate emission factor would be 5 x 8 or 40 kg/Mg (80 lb/ton). On average, the "condensable" material collected in the back half catch of EPA Method 5 is less than 5% of the front half, or "filterable", catch for pulverized coal and cyclone furnaces; about 10% for spreader stokers; about 15% for other stokers; and about 50% for handfired units (References 6, 19, and 49).

<sup>c</sup> Expressed as SO<sub>2</sub>, including SO<sub>2</sub>, SO<sub>3</sub> and gaseous sulfates. The factors in parentheses should be used to estimate gaseous sulfur oxide emissions for subbituminous coal. In all cases, "S" is the weight % sulfur content of the coal as fired. See Footnote b for an example calculation. On average for bituminous coal, 97% of the fuel sulfur is emitted as SO<sub>2</sub>, whereas only about 0.7% of the fuel sulfur is emitted as SO<sub>3</sub> and gaseous sulfate. An equally small percent of the fuel sulfur is emitted as particulate sulfate (References 9, 13). Small quantities of sulfur are also retained in the bottom ash. With subbituminous coal, generally about 10% more fuel sulfur is retained in the bottom ash and particulate, because of the more alkaline nature of the coal ash. Conversion to gaseous sulfate appears to be about the same as for bituminous coal.

<sup>d</sup> Expressed as NO<sub>2</sub>. Generally, 95 - 99 volume % of the nitrogen oxides present in combustion exhaust will be in the form of NO, the rest being NO<sub>2</sub> (Reference 11). To express these factors as NO, multiply by a factor of 0.66. All factors represent emissions at baseline operation (i.e., 60 - 110% load and no NO<sub>x</sub> control measures, as discussed in the text).

<sup>e</sup> Nominal values achievable under normal operating conditions. Values one or two orders of magnitude higher can occur when combustion is not complete.

<sup>f</sup> Nonmethane volatile organic compounds (VOC), expressed as C<sub>2</sub> to C<sub>16</sub> n-alkane equivalents (Reference 58). Because limited data on NMVOC were available to distinguish the effects of firing configuration, all data were averaged collectively to develop a single average for pulverized coal units, cyclones, spreader and overfeed stokers.

<sup>g</sup> Parenthetic value is for tangentially fired boilers.

<sup>h</sup> Uncontrolled particulate emissions, when no flyash reinjection is employed. When a control device is installed, and collected flyash is reinjected to the boiler, particulate from the boiler reaching the control equipment can increase by up to a factor of two.

<sup>i</sup> Accounts for flyash settling in an economizer, air heater or breeching upstream of a control device or stack. (Particulate directly at the boiler outlet typically will be twice this level.) This factor should be applied even when flyash is reinjected to the boiler from boiler, air heater or economizer dust hoppers.

<sup>j</sup> Includes traveling grate, vibrating grate and chain grate stokers.

<sup>k</sup> Accounts for flyash settling in the breeching or stack base. Particulate loadings directly at the boiler outlet typically can be 50% higher.

<sup>l</sup> Accounts for flyash settling in the breeching downstream of the boiler outlet.

Attachment II

Revised pages to:

VOLUME I

Prevention of Significant Deterioration (PSD)  
Application - Tampa Electric Company

(PSD-FL-040)

*Subj file*

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM  
GOVERNOR

VICTORIA J. TSCHINKEL  
SECRETARY

MEMORANDUM

TO: H. S. Oven

FROM: C. H. Fancy *[Signature]*

DATE: March 2, 1982

SUBJ: Separate Stack for TECO Big Bend Unit 4

We have reviewed TECO's letter of February 19, 1982, proposing the construction of a separate stack for Big Bend Unit 4. While the effect of this proposal will be to increase ground level concentrations for the case of all four units in operation, no violation of Florida ambient air quality standards is predicted.

We do not believe this change in stack configuration warrants any revisions to the conditions of certification.

CHF/LG/bjm





December 2, 1981

Mr. Howard D. Zeller  
Assistant Regional Administrator  
U.S. Environmental Protection  
Agency  
345 Courtland Street N.E.  
Atlanta, Georgia 30365

Re: Tampa Electric Company  
Big Bend Unit No. 4  
PSD-FL-040

Dear Mr. Zeller:

In accordance with Part II.1 of the General Conditions of the PSD Permit for Big Bend Unit 4, Tampa Electric Company is required to notify EPA of the beginning of construction of the permitted source and the estimated date of start-up of operation. This is to inform you that construction of Unit 4 commenced on December 2, 1981 with the placing of pilings. According to the construction schedule, start-up of Unit 4 is still scheduled for January 1985 with start of commercial operation in March 1985.

If you have any questions, please feel free to call me.

Sincerely,

A handwritten signature in cursive script that reads "Heywood A. Turner".

Heywood A. Turner  
Senior Vice President  
Production

HAT:dh

cc: Mr. Thomas Devine  
Mr. Richard Schutt  
Mr. James Wilburn  
Mr. Steve Smallwood  
Mr. Hamilton S. Oven, Jr.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

OCT 15 1981

REGION IV  
345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Mr. Heywood A. Turner  
Senior Vice President Production  
Tampa Electric Company  
Post Office Box 111  
Tampa, Florida 33601

Re: PSD-FL-040 / Tampa Electric Company  
Big Bend Station, Unit 4

Dear Mr. Turner:

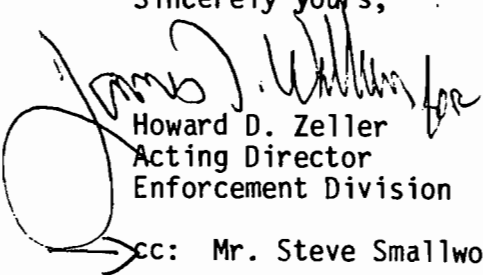
The review of your March 1980 application to construct a coal-fired steam electric generating unit (Unit 4) located at Big Bend Station near Ruskin, Florida, has been completed. The construction is subject to rules for the Prevention of Significant Air Deterioration (PSD) contained in 40 C.F.R. §52.21.

We have determined that the construction as described in the application meets all applicable requirements of the PSD regulations. Accordingly, enclosed with this letter is your permit package including a Permit to Construct, Part I: Specific Conditions, and Part II: General Conditions. This authorization to construct is based solely on the requirements of 40 C.F.R. §52.21 and does not apply to other permits issued by this or any other agency.

This final permit decision is subject to appeal under 40 C.F.R. §124.19 by petitioning the Administrator of the EPA within 30 days after receipt of this notice of the final permit decision. The petitioner must submit a statement of reasons for the appeal and the Administrator must decide on the petition within a reasonable time period. If the petition is denied, the permit becomes immediately effective. The petitioner may then seek judicial review.

Authority to construct this facility will take effect on the date specified in the permit. The complete analysis which justifies this approval has been fully documented for future reference is necessary. Any questions concerning this approval may be directed to Mr. Richard Schutt, Chief, Permit Processing Section, at 404/881-2017.

Sincerely yours,

  
Howard D. Zeller  
Acting Director  
Enforcement Division

cc: Mr. Steve Smallwood, FL DER





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).

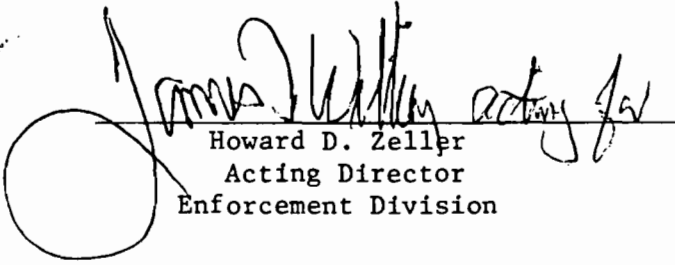
This permit shall become effective on November 14, 1981.

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.

10/15/81

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 SO<sub>2</sub>, NO<sub>x</sub>, 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 CO<sub>2</sub> analyzer in accordance with the provisions of 40 CFR 60.47a.

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 B. 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.

1. The permittee shall notify the permitting authority in writing of the beginning of construction of the permitted source within 30 days of such action and the estimated date of start-up of operation.
2. The permittee shall notify the permitting authority in writing of the actual start-up of the permitted source within 30 days of such action and the estimated date of demonstration of compliance as required in the specific conditions.
3. Each emission point for which an emission test method is established in this permit shall be tested in order to determine compliance with the emission limitations contained herein within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source. The permittee shall notify the permitting authority of the scheduled date of compliance testing at least thirty (30) days in advance of such test. Compliance test results shall be submitted to the permitting authority within forty-five (45) days after the complete testing. The permittee shall provide (1) sampling ports adequate for test methods applicable to such facility, (2) safe sampling platforms, (3) safe access to sampling platforms, and (4) utilities for sampling and testing equipment.
4. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of two (2) years from the date of recording.
5. If, for any reason, the permittee does not comply with or will not be able to comply with the emission limitations specified in this permit, the permittee shall provide the permitting authority with the following information in writing within five (5) days of such conditions:
  - (a) Qualitative and quantitative description of noncomplying emission(s),
  - (b) cause of noncompliance,
  - (c) anticipated time the noncompliance is expected to continue or, if corrected, the duration of the period of noncompliance,
  - (d) steps taken by the permittee to reduce and eliminate the non-complying emission,and
  - (e) steps taken by the permittee to prevent recurrence of the noncomplying emission.

Failure to provide the above information when appropriate shall constitute a violation of the terms and conditions of this permit. Submittal of this report does not constitute a waiver of the emission limitations contained within this permit.

6. Any change in the information submitted in the application regarding facility emissions or changes in the quantity or quality of materials processed that will result in new or increased emissions must be reported to the permitting authority. If appropriate, modifications to the permit may then be made by the permitting authority to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause violation of the emission limitations specified herein.
7. In the event of any change in control or ownership of the source described in the permit, the permittee shall notify the succeeding owner of the existence of this permit by letter and forward a copy of such letter to the permitting authority. Such notification must be given prior to transfer of ownership.
8. The permittee shall allow representatives of the State environmental control agency and/or representatives (including contractors) of the Environmental Protection Agency, upon the presentation of credentials:
  - (a) to enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of the permit;
  - (b) to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit, or the Act;
  - (c) to inspect at reasonable times any monitoring equipment or monitoring method required in this permit;
  - (d) to sample at reasonable times any emission of pollutants;and
  - (e) to perform at reasonable times an operation and maintenance inspection of the permitted source.
9. All correspondence required to be submitted by this permit to the permitting agency shall be mailed to the:

Chief, Compliance Branch  
Enforcement Division, EPA Region IV  
345 Courtland Street, NE  
Atlanta, Georgia 30365
10. The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

The emission of any pollutant more frequently or at a level in excess of that authorized by this permit shall constitute a violation of the terms and conditions of this permit.



TABLE 1  
ALLOWABLE EMISSION LIMITS

<u>Facility</u>	<u>POLLUTANTS</u>								
	<u>SO<sub>2</sub></u>		<u>NO<sub>x</sub></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% <sup>a</sup>
30 Day Rolling Average	0.82	3576	0.6	2598					
2. Limestone and Handling System Baghouse						0.65 <sup>b</sup>			5%
3. Limestone Day Silo						0.05 <sup>b</sup>			5%
4. Flyash Silos and Handling System						0.2 <sup>b</sup>			5%

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

<sup>b</sup> Exempt from compliance testing provided opacity limit is maintained.

Response to Comment on the Revised Preliminary Determination

Tampa Electric Company

PSD-FL-040

Comments were received from one source during the public comment period for Tampa Electric Company's (TECO) proposed electric generating unit (Big Bend Unit 4). The public comment period, which closed on September 2, 1981, was for the Revised Preliminary Determination issued in the Draft Environmental Impact Statement. A summary of the comments received and EPA Region IV responses are as follows:

Comment 1:

The commenter noted that a sentence in the BACT discussion for NO<sub>x</sub> and CO referred to a requirement for a flue gas O<sub>2</sub> or CO<sub>2</sub> monitor. They felt it should have been deleted since the monitor requirement had been deleted.

Response 1:

That reference to the flue gas O<sub>2</sub> or CO<sub>2</sub> monitor was included in error. It has been omitted in the Final Determination.

Comment 2:

The commenter questioned the need to "always provide 25% or greater reduction in potential SO<sub>2</sub> emissions" through coal washing and preparation as they understand Condition 11 to require.

Response 2:

Condition 11 requires that "The applicant shall maintain records of all coal washing and preparation activities. . . "; however, in order to prevent any misinterpretation the reference to a minimum potential SO<sub>2</sub> emission removal will be stricken. Condition 11 will remain in the Final Determination but will be reworded for clarity and precision.

Comment 3:

The commenter noted that the potential annual SO<sub>2</sub> emissions in Table I was incorrect.

Response 3:

The correct number of 15,552 tons/yr will be inserted in the Final Determination.

Comments on EPA's Preliminary Determination on  
the Big Bend Unit 4 PSD Application

p. E-5

In the discussion of BACT for  $\text{NO}_x$  and CO, the sentence "An attachment to this preliminary determination summary specifies combustion control requirements to balance the trade-offs between  $\text{NO}_x$  and CO emissions through the use of a flue gas oxygen or  $\text{CO}_2$  monitor." should be deleted since the attachment and requirements have been deleted from the preliminary determination as noted in the response to Comment No. 3 on page E-23.

p. E-14 (Condition No. 11)

The applicant will demonstrate compliance with the NSPS requirements for percent reduction of potential sulfur dioxide emissions by monitoring coal characteristics and flue gas sulfur dioxide content, and through other procedures established in 40 CFR Subpart Da, as discussed on p. E-4. The BACT analysis assumed 25% reduction in potential sulfur dioxide emissions (not sulfur) through coal washing and preparation. This assumption was based on coal washing data indicating 25% reduction is possible. However, should the coal washing and preparation not always provide 25% or greater reduction in potential  $\text{SO}_2$  emissions, flexibility has been designed into the control equipment to achieve an overall reduction in potential  $\text{SO}_2$  emissions of 90%. For these reasons, Condition No. 11 should be deleted.

p. E-17, Table 1

The potential emissions of  $\text{SO}_2$  should be 15,552 tons/hr to reflect the 0.82 lbs.  $\text{SO}_2$ /MMBTU emission rate.

(Submitted by Mr. Heywood A. Turner at the EIS Public Hearing on August 19, 1981; to be entered into the official record.)

RESPONSE TO COMMENT  
TAMPA ELECTRIC COMPANY  
(PSD-FL-040)

One letter of comment was received during the public comment period for Tampa Electric Company's (TECO) proposed electric generating unit (Big Bend Unit 4). The Public Notice was published December 31, 1980. Due to a substantial error in the BACT evaluation for the SO<sub>2</sub> emission limit, EPA has decided to issue this revised Preliminary Determination for public comment prior to a Final Determination. A summary of the substantive comments received and EPA Region IV responses are as follow:

Comment 1:

The commenter pointed out that the basis for the SO<sub>2</sub> allowable emission limit included in the Preliminary Determination was in error and that the resulting limit (0.63 lb/MMBtu) was too restrictive.

Response 1:

Following reevaluation of the application and review of the additional information submitted with the comments, EPA concludes that the data in the application was misinterpreted in developing the SO<sub>2</sub> allowable emissions limit in the original Preliminary Determination. In response to the comment, EPA has reevaluated the SO<sub>2</sub> BACT analysis and determined an SO<sub>2</sub> allowable limit (0.82 lb/MMBtu), based on the higher end of a proposed allowable range contained in an addendum to the application.

Comment 2:

The commenter was concerned that water spraying of the coal pile and drop points, as proposed in the application, was required during all dry and high wind periods, second that water spraying of the limestone was unnecessarily required, and third that enclosed limestone conveyors need not be exhausted to a control system.

Response 2:

The applicant is required, as specified in Condition 5c. to utilize water sprays during dry periods to maintain opacity of all fugitive sources below 20 percent. Compliance with this condition of approval does not necessarily require water spraying during all dry periods or periods of high wind. Neither does it mandate water spraying of limestone. If the limestone storage pile is enclosed, as specified in the comments, it likely will not require spraying. With respect to the comment on transfer conveyor exhaust, the language of the Preliminary Determination was somewhat misleading. The intent was to require exhaust and control of conveyor transfer points, (as proposed in the application). The matter has been clarified in this Preliminary Determination.

Comment 3:

The commenter feels that use of a flue gas oxygen meter to balance CO and NO<sub>x</sub> emissions from a utility boiler is not practical or feasible due to variations in the allowable O<sub>2</sub> range with boiler load and with the properties of the coal being fired.

Response 3:

EPA acknowledges the commenter's concerns here and has therefore revised this permit providing TECO the option of either monitoring for O<sub>2</sub> or CO<sub>2</sub>. EPA will consider either choice as being an effective means of balancing NO<sub>x</sub> and CO emission tradeoffs in order to satisfy this particular permit requirement.

Comment 4:

The commenter feels that the SO<sub>2</sub> post-construction monitoring requirement is unjustified.

Response 4:

In as much as the proposed new source will be increasing SO<sub>2</sub> emissions into the Big Bend region by as much as 12,000 tons per year and existing ambient air monitoring data at 4 of the 5 stations in the vicinity show concentrations in excess of 50 percent of the SO<sub>2</sub> NAAQS, EPA maintains the post-construction SO<sub>2</sub> monitoring requirement to establish the impact of the new source on existing ambient air quality.

Comment 5:

The commenter objected to the requirement for monitoring of the pH in the FGD system as unreasonable.

Response 5:

Upon reevaluation of the proposed FGD control instrumentation, EPA agrees that redundant scrubber inlet and exit SO<sub>2</sub> analyzers provides sufficient assurance that compliance of the SO<sub>2</sub> emissions limit should be maintained.

Comment 6:

The commenter questioned the requirement to submit a new PSD permit if the design of the system is modified to include brackish water cooling towers.

Response 6:

As stated by Region IV new source review staff in a meeting with TECO regarding the environmental impact statement, the addition of the cooling towers (PM emitting sources) to the proposed construction would necessitate resubmittal of the PSD application. The air quality analysis, particularly with respect to fugitive PM emissions, would be in question. In addition, the modification would be regarded as a significant modification to the plant design proposed for PSD preconstruction review.

Comment 7:

The commenter requested clarification on the degree of detail necessary for FGD system design parameters required for submittal and was concerned about confidentiality of certain materials.

Response 7:

The required submittal is not meant to be exhaustive or time consuming; however, sufficient detail on scrubber and ESP design (liquid/gas flow characteristics, capacity, controls, performance guarantees etc.) should be submitted to allow a determination on whether or not the unit can achieve the required control levels. The application discusses only "generic" control systems. Integral to this discussion is the characteristics of the selected coal. As to confidentiality of submitted materials, any such materials contained in the submittal should be clearly marked. Confidential materials will be maintained in a separate locked file and its review will be restricted to the engineer(s) responsible for evaluating system design. Other individuals and the general public will not be afforded direct access to the materials.

This Preliminary Determination takes into consideration the comments and responses discussed previously and additional minor comments included in the same submittal. A copy of the comments received have been appended to the Preliminary Determination and will be placed on display in the same location as the original Preliminary Determination for public information



POST OFFICE BOX 111 TAMPA, FLORIDA 33601 TELEPHONE (813) 875-4111

January 28, 1981

Mr. Tommie A. Gibbs, Chief  
Air Facilities Branch  
United States Environmental  
Protection Agency  
Region IV  
345 Courtland Street  
Atlanta, Georgia 30308

RE: Tampa Electric Company  
Big Bend Station - Unit 4  
PSD Application #PSD-FL-040

Dear Mr. Gibbs:

We have reviewed the Big Bend Unit 4 PSD Application Preliminary Determination and are submitting the attached comments. These comments are presented in a format and sequence similar to that of the Preliminary Determination.

As discussed with EPA representatives on January 14, 1981, we are most concerned with the calculated 30 day rolling average SO<sub>2</sub> limitation and specific conditions 5, 7 and 8. Our comments with respect to these major items as well as numerous other items are provided within.

Should you have any questions regarding this matter, please contact Mr. Jerry Williams, Manager, Environmental Planning.

Sincerely,

Alex Kaiser  
Vice President-Energy Supply

attachment

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 4330 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 SO<sub>2</sub> 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 SO<sub>2</sub> emissions due to coal washing.

EPA concluded in the determination that 90% reduction in potential SO<sub>2</sub> 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 SO<sub>2</sub> 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 <sub>2</sub> 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 SO<sub>2</sub> 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 <sub>2</sub> 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 0.84 lbs./MMBTU. The 0.63 lbs./MMBTU calculated by EPA reflects an overall reduction in potential SO<sub>2</sub> emissions of 93%.

At the request of EPA, TECO submitted a proposed 30 day rolling average SO<sub>2</sub> 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<sub>x</sub>) AND CARBON MONOXIDE (CO)

o Page 5

An attachment to the Preliminary Determination specifies combustion control requirements to balance the tradeoffs between NO<sub>x</sub> 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

other utility boilers incorporate flue gas oxygen analyzers for proper control of combustion. For a specific design coal, boiler excess oxygen will range from a high value at low operational load to a low value at maximum design capacity. Even these values are fine tuned by the boiler operator for proper steam temperature and are affected by combustion air temperature and other boiler conditions. As the coal (and its carbon content) change, the excess oxygen requirements change over the various load conditions. Therefore, if some maximum excess oxygen value is used for one coal to control  $\text{NO}_x$ , another coal may still comply with  $\text{NO}_x$  limits even though the excess oxygen value is higher than the set limit. These values also change at low loads for different coals and boiler conditions and apply in the same manner to CO compliance. During startups, shutdowns and load changes, it would be normal for the excess oxygen to vary outside of the set range while still being in compliance. Note that there will be a continuous monitor for showing compliance with  $\text{NO}_x$  emission limits. The excess oxygen analyzer is not load dependent; it is used for boiler combustion control and can not be reasonably used for CO and  $\text{NO}_x$  emission limit control based on some specific coal or operational condition.

#### A. Air Quality Analysis

##### 1. Increment Analysis

###### o Page 7

In the last paragraph, third line "... area source has occurred..." should be "... area sources have occurred..."

##### 2. NAAQS Impact

###### o Page 10

It is noted in the preliminary determination that the applicant proposes and EPA agrees that an adequate demonstration has been made that NAAQS level will not be violated. However, the EPA will require continuous  $\text{SO}_2$  monitoring by the applicant to verify the results of the analysis. Guidelines for when post construction monitoring should be required are provided on Page 4, Section 2.1.2 of Ambient Monitoring Guidelines For Prevention of Significant Deterioration (PSD), EPA - 450/4-80-012, November 1980 and are as follows:

## 2.1.2 Criteria Pollutants -Postconstruction Phase

EPA has discretion in requiring postconstruction monitoring data under section 165 (a)(7) of the Clean Air Act and in general will not require postconstruction monitoring data. However, to require air quality monitoring data implies that the permit granting authority will have valid reasons for the data and, in fact, will use the data after it is collected. Generally, this will be applied to large sources or sources whose impact will threaten the standards or PSD increments. Examples of when a permit granting authority may require postconstruction monitoring data may include:

- a. NAAQS are threatened - The postconstruction air quality is projected to be so close to the NAAQS that monitoring is needed to certify attainment or to trigger appropriate SIP related actions if nonattainment results.
- b. Source impact is uncertain or unknown - Factors such as complex terrain, fugitive emissions, and other uncertainties in source or emission characteristics result in significant uncertainties about the projected impact of the source or modification. Postconstruction data is justified as a permit condition on the basis that model refinement is necessary to assess the impact of future sources of a similar type and configuration:

It is felt that the Big Bend situation does not fit these guidelines for required postconstruction modeling. The predicted ambient air quality impacts do not threaten NAAQS or PSD increments. The preconstruction ambient air monitoring data provided in the application indicate that the SO<sub>2</sub> ambient air quality in the site vicinity does not approach AAQS except for one reading at a particular station. On May 7, 1977, maximum 24 hour and 3 hour values representing 90% of the respective standard were recorded. However, since that time SO<sub>2</sub> emissions from Big Bend have been reduced by 3.5 tons per hour on a 3-hour average and by 7 tons per hour on a 24-hour average. In addition, the SO<sub>2</sub> ambient air quality data indicate that no other reading exceeded 80% of the standard with the arithmetic mean concentrations not exceeding 30% of the applicable standard. Therefore, based on the EPA guidelines, the ambient air monitoring data, and the Big Bend emission reductions, the requirement for postconstruction monitoring is not justified.

C. Class I Area Impact.

o Page 10

In the last paragraph, fourth line, distance is misspelled.

D. Growth Impacts

o Page 11

Based on surveys and previous construction at Big Bend, approximately 90 percent of the construction workers will be hired from within the Tampa area work force.

V. CONCLUSION

o Page 12

#1 As previously noted, Big Bend 4 will have a gross generating capacity of 486 MW<sub>e</sub> with a net generating capacity of 417 MW<sub>e</sub>. The maximum heat input rate is 4330 MMBTU/HR.

#3 In the last sentence, it is believed opacity should be capacity.

#5 As previously noted, compliance with the condition "Use of Flue Gas Oxygen Meter as BACT for combustion controls" is not considered feasible or practical.

#6c As previously noted, water spraying will not be provided for limestone handling and storage.

#6d As previously noted, it is unnecessary for the limestone conveyors to be maintained at negative pressures with the exhaust vented to a control system.

#7 While the effluent pH of some FGD systems may provide an indication of SO<sub>2</sub> removal efficiency, such is not the case for the Big Bend Unit 4 system.

The FGD System that Tampa Electric Company has purchased is a limestone based two loop process which produces a gypsum by-product. Control of reagent addition is by an SO<sub>2</sub> mass flow signal. The inlet and outlet SO<sub>2</sub> values are compared, controlling the SO<sub>2</sub> removal efficiency to the setpoint (i.e. 86%) removal. In the two loop process, the first loop operates at a low pH for production of gypsum and some SO<sub>2</sub> removal, while the second loop operates at high pH for dissolution of limestone and the major amount of SO<sub>2</sub> removal. It is possible for the system to meet the required SO<sub>2</sub> removal efficiency while the pH in any one loop is less than it was at some other time for the same overall SO<sub>2</sub> removal. This is because of the two independent loops. While pH is monitored, it is not a direct control value and should not be used as such. Therefore, it is not reasonable to maintain or require a minimum pH value in this system.

- #8 As noted, earlier, the need for post construction monitoring is not warranted.
- #11 It is not clear why a complete new application would be necessary if cooling towers were required for the facility. The use of cooling towers would have no effect on the information in the application as submitted to date. It would be more reasonable to require that the additional necessary information and analyses due to cooling tower operation be submitted if towers are to be utilized. Then the permitting authority could make the proper changes in the permit conditions. This condition is redundant in light of general condition number 6.
- #12 It is not clear as to what detail of technical data is required by the Agency. In addition, formal bids from vendors are considered confidential and are not available for reproduction and distribution.

## GENERAL CONDITIONS

### #1 & #2

The definitions of start of construction and start of operation are not clear. It is assumed that start of construction is the physical placement of facilities. Start of operation is assumed to mean the beginning of steady on-line commercial operation.

#8a This condition should include the wording ..."at reasonable times....", similar to items 8(b) through 8(e).

### ATTACHMENT - "Use of flue gas oxygen meter as BACT for combustion controls"

As previously noted, this procedure is not practical or feasible and as written may constitute non-compliance when, in fact, all emission limitations are met.

Table 1 For the pollutant CO the potential emissions should be 267 Tons/Year.

Table 5 As previously noted the 30 day rolling average SO<sub>2</sub> emission limitation was calculated incorrectly.

In Item 2, flyash should not be included. The flyash handling system and flyash silos are vented to the same bag house. Flyash handling is included in the Item 4 emission rate of 0.2 lb./HR.

system for measuring SO<sub>2</sub> emissions will be installed, calibrated, maintained, and operated at a point downstream of the FGD system.

#### 4.3 Oxides of Nitrogen

The emission of NO<sub>x</sub> from the combustion system will be minimized by the design of the burners and boiler to be provided by CE. The tangentially-fired boiler has been demonstrated to be capable of limiting NO<sub>x</sub> formation to 0.6 lb/MMBtu, the NSPS, when firing bituminous coal. The EPA cites several CE boilers in operation that are able to meet the NSPS, although these boilers are neither designed nor guaranteed to have an NO<sub>x</sub> emission at these levels.

The formation of thermally produced NO<sub>x</sub> is inhibited in the CE boiler by the off-stoichiometric combustion, that is, operating the burners at a fuel-rich mixture. Off-stoichiometric combustion can be accomplished by two techniques: biased-firing and two-staged combustion. The former technique consists of operating selected burners at fuel-rich mixtures and others at lean mixtures. Initial combustion then occurs in a reducing atmosphere, followed by complete combustion after substantial heat loss. The resultant lower flame temperatures inhibit the formation of thermal NO<sub>x</sub>. The latter technique, two-staged combustion, is accomplished by diverting a portion of the combustion air to over-fire air ports located above the burners. The same fuel-rich combustion occurs with the attendant heat loss, followed by complete mixing and combustion above the primary combustion zone. Although CE has incorporated over-fire air ports in the boiler design to maintain NO<sub>x</sub> concentrations at the NSPS, operation of these ports has been found to be unnecessary below 90% MCR. Two-stage combustion will thus be used should monitoring indicate that the NO<sub>x</sub> emissions may exceed standards. The NO<sub>x</sub> emission limitation is equivalent to an emission rate of 2,598 lb/hr.

The EPA sponsored a test program, performed by CE, at the Alabama Power Company's Barry Station #2. This program assessed the effects of modifications in boiler operation and design on the emission of



NO<sub>x</sub>. Included in the modifications were variations in excess air, biased-firing, over-fire air, burner tilt, and water-wall slagging. The results of this program that are applicable to Unit 4 boiler operation are summarized in Table 4-7. Note that all tests demonstrated boiler compliance with the NSPS for NO<sub>x</sub>, with the exception of that test with no modifications and water-wall slagging.

Compliance with the NSPS for NO<sub>x</sub> will be demonstrated in accordance with Section 60.48a, Subpart Da, and by procedures prescribed in Method 19, Appendix A, 40 CFR 60. A continuous monitoring system for measuring NO<sub>x</sub> emissions will be installed, calibrated, maintained, and operated at a point downstream of the economizer outlet.

#### 4.4 Carbon Monoxide

The only significant source of CO is the Unit 4 steam generator. CE does not include monitoring of combustibles in the design of their boilers because CO emissions are expected to be negligible. The recording of combustibles, however, may be included in the specification of the combustion air control system. Using the emission factor from the EPA document Compilation of Air Pollution Emission Factors, AP-42, the CO emission rate will be approximately <sup>124</sup>~~62~~ lb/hr based on Coal F-1A and boiler performance data. This factor represents a consensus mean emission from both boilers of older and more recent design. The EPA test on the Alabama Power Company's Barry Station #2 demonstrates that CO emissions typically range from 0.016 to 0.022 lb/MMBtu, which is equivalent to 70 to 95 lb/hr (see Table 4-7). These data then generally support the AP-42 emission factor, which is used to estimate the CO emission rate.

#### 4.5 Summary

The emission of pollutants from the proposed Unit 4 steam generator is summarized in Table 4-8. The applicable NSPS for electric utility facilities are also presented for direct comparison.

TABLE 4-7

EPA TEST PROGRAM FOR NO<sub>x</sub> REDUCTION

<u>Test No.</u>	<u>Test Condition*</u>	<u>Excess Air</u>	<u>Emission (lb/MMBtu)</u>	
			<u>NO<sub>x</sub>**</u>	<u>CO</u>
1	No modification	22.7	0.58	0.022
2	No modification; WW slagging	26.0	0.68	0.024
3	BF	24.2	0.33	0.019
4	OFA	25.4	0.55	0.016
5	OFA; WW slagging	25.9	0.50	0.016
6	OFA; -5° burner tilt	25.9	0.39	0.016
7	OFA; +19° burner tilt	25.1	0.43	0.023
8	Optimum conditions	27.4	0.39	0.018

\*WW = water-wall; BF = biased-firing; OFA = over-fire air.

\*\*As NO<sub>2</sub>.

Source: EPA 1975.

TABLE 4-8

POLLUTANT EMISSIONS SUMMARY  
BIG BEND STATION UNIT 4

<u>Pollutant</u>	<u>Pollutant Emission</u>			<u>Applicable NSPS/SIP Requirement</u>
	<u>lb/hr</u>	<u>lb/MMBtu</u>	<u>% Reduction</u>	
PM	129.9	0.03	99.7	0.03 lb/MMBtu
NO <sub>x</sub>	2,598.	0.60	65.0	0.60 lb/MMBtu
SO <sub>2</sub> *	2,592.-5,184.	0.60-1.2	90.0	90% reduction
CO	124 -62.	0.029 -0.014-	NA	NA

\*SO<sub>2</sub> emission represents range of sulfur content of raw coals of 3.0 and 6.0 lb/MMBtu.

# Historic BASECASE

PLANT NAME Gannon

UTILITY <u>Tampa Electric Company</u>	NAME PLATE CAP. Mw <u>1,270.38</u>
COUNTY <u>Hillsborough</u>	ANN. GENERATION Mwh _____
TOWN <u>Tampa</u>	HEAT RATE MM Btu/h _____
LONG/LAT GRW _____	CONSTRUCTION DATE _____
LONG/LAT UTM _____	ON-LINE DATE _____
AQCR REG. _____	RETIREMENT DATE _____
RIVER BASIN _____	No. UNITS _____

UNIT DATA

	1	2	3	4	5	6
STATUS	_____	_____	_____	_____	_____	_____
FIRING CAPAB.	_____	_____	_____	_____	_____	_____
FUEL	Oil	Oil	Oil	Oil	Coal	Coal
UNIT CAPACITY Mw	125	125	179.52	187.5	239.36	414
UNIT FACTOR	_____	_____	_____	_____	_____	_____
HEAT RATE MM Btu/h	_____	_____	_____	_____	_____	_____
FUEL CONS. #/h	201661	201661	258661	307661	93.4T	151.4T
BOILER MFR.	B&W	B&W	B&W	B&W	Rily	Rily
SO2 CONTROL TYPE	None	None	None	None	None	None
EFFICIENCY	_____	_____	_____	_____	_____	_____
PARTIC. CONTROL TYPE	ESP	ESP	ESP	ESP	ESP	ESP
EFFICIENCY	86.8	91.0	85.4	80.2	97.2	99.84
FLYASH REINJECT	No	No	No	No	Yes	Yes
(lb/hr) MASS EMISSION RT	354	354	220.2	174.7	291	183

STACK DATA

	1	2	3	4	5	6
HEIGHT ft	306	306	306	306	306	306
DIAMETER ft	10	10	10.6	9.6	15	18.4
EXIT VEL. ft/s	79	79	74.1	53.8	64.1	76.9
EXIT TMP. °F	309	309	300	329	288	292

ANNUAL EMISSIONS

PARTICULATES(t/y) 890  
 SOx (t/y) 38,500  
 NOx (t/y) 27,200

FUEL DATA

	OIL	COAL
% SULFUR	<u>0.95</u>	<u>1.3</u>
% ASH	<u>10.1</u>	<u>10.1</u>
HEAT CONTENT	<u>150,083 Btu/gal</u>	<u>12,174 Btu/lb</u>



PLANT NAME Scholz

UTILITY Gulf Power Company  
 COUNTY Jackson  
 TOWN Chattahoochee  
 LONG/LAT GRW \_\_\_\_\_  
 LONG/LAT UTM \_\_\_\_\_  
 AQCR REG. \_\_\_\_\_  
 RIVER BASIN \_\_\_\_\_

NAME PLATE CAP. Mw 98  
 ANN. GENERATION Mwh \_\_\_\_\_  
 HEAT RATE MM Btu/h \_\_\_\_\_  
 CONSTRUCTION DATE \_\_\_\_\_  
 ON-LINE DATE \_\_\_\_\_  
 RETIREMENT DATE \_\_\_\_\_  
 No. UNITS \_\_\_\_\_

UNIT DATA

	1	2	3	4	5	6
STATUS						
FIRING CAPAB.						
FUEL						
UNIT CAPACITY Mw	49	49				
UNIT FACTOR						
HEAT RATE MM Btu/h	488	488				
FUEL CONS. %/h	19.6†	19.6†				
BOILER MFR.	86W	86W				
SO2 CONTROL						
TYPE						
EFFICIENCY						
PARTIC. CONTROL						
TYPE	ESP	ESP				
EFFICIENCY	99.5%	99.5%				
FLYASH REINJECT						
(lb/hr) MASS EMISSION RT	14	14				
Particulates (lb/MMBtu)	0.014	0.043				
STACK DATA						
HEIGHT ft	150					
DIAMETER ft	13.5					
EXIT VEL. ft/s	40.4					
EXIT TMP. °F	326					

ANNUAL EMISSIONS

PARTICULATES(t/y) 80  
 SOx (t/y) 980  
 NOx (t/y) 1,840

FUEL DATA

	OIL	COAL
% SULFUR		2.4
% ASH		11.2
HEAT CONTENT	Btu/gal	12,442 Btu/lb



PLANT NAME McIntosh

UTILITY City of Lakeland  
 COUNTY Polk  
 TOWN Lakeland  
 LONG/LAT GRW \_\_\_\_\_  
 LONG/LAT UTM \_\_\_\_\_  
 AQCR REG. \_\_\_\_\_  
 RIVER BASIN \_\_\_\_\_

NAME PLATE CAP. Mw 547.7  
 ANN. GENERATION Mwh \_\_\_\_\_  
 HEAT RATE MM Btu/h \_\_\_\_\_  
 CONSTRUCTION DATE \_\_\_\_\_  
 ON-LINE DATE \_\_\_\_\_  
 RETIREMENT DATE \_\_\_\_\_  
 No. UNITS 3

UNIT DATA

	1	2	3	4	5	6
STATUS						
FIRING CAPAB.						
FUEL	<u>0:1/Gas</u>	<u>0:1</u>	<u>C/O/R</u>			
UNIT CAPACITY Mw	<u>100</u>	<u>115</u>	<u>333</u>			
UNIT FACTOR						
HEAT RATE MM Btu/h	<u>957</u>	<u>1237</u>	<u>3127</u>			
FUEL CONS. #/h	<u>154 bbl</u>	<u>199 bbl</u>	<u>130.3 t</u>			
BOILER MFR.	<u>Riley</u>	<u>B&amp;W</u>	<u>B&amp;W</u>			
SO2 CONTROL TYPE	<u>None</u>	<u>None</u>	<u>Limestone Absorp.</u>			
EFFICIENCY			<u>80%</u>			
PARTIC. CONTROL TYPE	<u>None</u>	<u>None</u>				
EFFICIENCY			<u>99.63</u>			
FLYASH REINJECT			<u>No</u>			
MASS EMISSION RT						

STACK DATA

HEIGHT ft	<u>150</u>	<u>156.5</u>				
DIAMETER ft	<u>9</u>	<u>11</u>				
EXIT VEL. ft/s	<u>76.5</u>	<u>57.6</u>				
EXIT TMP. °F	<u>280</u>	<u>265</u>				

ANNUAL EMISSIONS

PARTICULATES(t/y) 860  
 SOx (t/y) 19,600  
 NOx (t/y) 10,000

FUEL DATA

	OIL	COAL
% SULFUR	<u>2.36 / 0.74</u>	<u>1.8 - 3.0</u>
% ASH		
HEAT CONTENT	<u>148,000 Btu/gal</u>	<u>11,500 Btu/lb</u>





PLANT NAME Deerhaven

UTILITY	<u>Gainesville Regional Utilities</u>	NAME PLATE CAP. Mw	<u>316</u>
COUNTY	<u>Alachua</u>	ANN. GENERATION Mwh	_____
TOWN	<u>Gainesville</u>	HEAT RATE MM Btu/h	_____
LONG/LAT GRW	_____	CONSTRUCTION DATE	_____
LONG/LAT UTM	_____	ON-LINE DATE	_____
AQCR REG.	_____	RETIREMENT DATE	_____
RIVER BASIN	_____	No. UNITS	<u>2</u>

UNIT DATA

	1	2	3	4	5	6
STATUS	_____	_____	_____	_____	_____	_____
FIRING CAPAB.	_____	_____	_____	_____	_____	_____
FUEL	<u>Oil</u>	<u>Coal</u>	_____	_____	_____	_____
UNIT CAPACITY Mw	<u>75</u>	<u>235</u>	_____	_____	_____	_____
UNIT FACTOR	_____	_____	_____	_____	_____	_____
HEAT RATE MM Btu/h	_____	_____	_____	_____	_____	_____
FUEL CONS. #/h	<u>157 bbl</u>	<u>96 t</u>	_____	_____	_____	_____
BOILER MFR.	<u>B&amp;W</u>	<u>Riley</u>	_____	_____	_____	_____
SO2 CONTROL TYPE	_____	_____	_____	_____	_____	_____
EFFICIENCY	_____	_____	_____	_____	_____	_____
PARTIC. CONTROL TYPE	_____	<u>ESP</u>	_____	_____	_____	_____
EFFICIENCY	_____	<u>99.5</u>	_____	_____	_____	_____
FLYASH REINJECT	<u>✓</u>	_____	_____	_____	_____	_____
MASS EMISSION RT	_____	_____	_____	_____	_____	_____

STACK DATA

HEIGHT	ft	<u>300</u>	<u>350</u>	_____	_____	_____
DIAMETER	ft	<u>11</u>	<u>17.75</u>	_____	_____	_____
EXIT VEL.	ft/s	<u>43.95</u>	<u>50</u>	_____	_____	_____
EXIT TMP.	°F	<u>261</u>	<u>275</u>	_____	_____	_____

ANNUAL EMISSIONS

PARTICULATES(t/y) 613  
 SOx (t/y) 6790  
 NOx (t/y) 2430

FUEL DATA

% SULFUR	<u>2.2</u>	OIL	<u>0.72</u>	COAL
% ASH	_____	_____	<u>8</u>	_____
HEAT CONTENT	<u>151,593</u>	Btu/gal	<u>12,000</u>	Btu/lb



PLANT NAME Big Bend

UTILITY	<u>TECO</u>	NAME PLATE CAP. Mw	<u>1336.5</u>
COUNTY	<u>HILLSBOROUGH</u>	ANN. GENERATION Mwh	_____
TOWN	<u>RUSKIA</u>	HEAT RATE MM Btu/h	_____
LONG/LAT GRW	_____	CONSTRUCTION DATE	_____
LONG/LAT UTM	_____	ON-LINE DATE	_____
AQCR REG.	_____	RETIREMENT DATE	_____
RIVER BASIN	_____	No. UNITS	<u>4</u>

UNIT DATA

	1	2	3	4	5	6
STATUS	_____	_____	_____	_____	_____	_____
FIRING CAPAB.	_____	_____	_____	_____	_____	_____
FUEL	<u>Coal</u>	<u>Coal</u>	<u>Coal</u>	<u>Coal</u>	_____	_____
UNIT CAPACITY Mw	<u>445.5</u>	<u>445.5</u>	<u>445.5</u>	<u>417</u>	_____	_____
UNIT FACTOR	_____	_____	_____	_____	_____	_____
HEAT RATE MM Btu/h	<u>4,184</u>	<u>4,180</u>	<u>4,367</u>	<u>4,740</u>	_____	_____
FUEL CONS. * /h	<u>182.3</u>	<u>182.1</u>	<u>190.3</u>	<u>206.5</u>	_____	_____
BOILER MFR.	<u>Rily</u>	<u>Rily</u>	<u>Rily</u>	<u>CE</u>	_____	_____
SO2 CONTROL TYPE	<u>None</u>	<u>None</u>	<u>None</u>	<u>Yes</u>	_____	_____
EFFICIENCY	_____	_____	_____	<u>Double Loop</u>	_____	_____
PARTIC. CONTROL TYPE	<u>ESP</u>	<u>ESP</u>	<u>ESP</u>	<u>90%</u>	_____	_____
EFFICIENCY	<u>99.6%</u>	<u>99.8%</u>	<u>99.7%</u>	<u>99%</u>	_____	_____
FLYASH REINJECT	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	<u>No</u>	_____	_____
(lb/hr) MASS EMISSION RT Particulates (lb/MMBtu)	<u>504</u>	<u>219</u>	<u>361.5</u>	<u>519.6</u>	_____	_____

STACK DATA

HEIGHT	ft	<u>490</u>	<u>490</u>	_____	_____	_____
DIAMETER	ft	<u>24</u>	<u>24</u>	_____	_____	_____
EXIT VEL.	ft/s	<u>94</u>	<u>68</u>	_____	_____	_____
EXIT TMP.	°F	<u>301</u>	<u>292</u>	_____	_____	_____

ANNUAL EMISSIONS

PARTICULATES (t/y) 1,000  
 SOx (t/y) 112,100  
 NOx (t/y) ~~8,084,400~~ 35,700

FUEL DATA

% SULFUR	OIL	_____	COAL	<u>2.2</u>
% ASH	_____	_____	<u>10.4</u>	_____
HEAT CONTENT	Btu/gal	_____	<u>11,475</u>	Btu/lb



PLANT NAME Crist

UTILITY Gulf Power Company  
 COUNTY Escambia  
 TOWN Pensacola  
 LONG/LAT GRW \_\_\_\_\_  
 LONG/LAT UTM \_\_\_\_\_  
 AQCR REG. \_\_\_\_\_  
 RIVER BASIN \_\_\_\_\_

NAME PLATE CAP. Mw 1229  
 ANN. GENERATION Mwh \_\_\_\_\_  
 HEAT RATE MM Btu/h \_\_\_\_\_  
 CONSTRUCTION DATE \_\_\_\_\_  
 ON-LINE DATE \_\_\_\_\_  
 RETIREMENT DATE \_\_\_\_\_  
 No. UNITS 7

UNIT DATA

	1	2	3	4	5	6	7
STATUS							
FIRING CAPAB.							
FUEL	<u>Gas/Oil</u>	<u>Gas/Oil</u>	<u>Gas/Oil</u>	<u>Coal/Gas</u>	<u>Coal/Gas</u>	<u>Coal/Gas</u>	<u>Coal</u>
UNIT CAPACITY Mw	<u>28.125</u>	<u>28.125</u>	<u>37.5</u>	<u>93.75</u>	<u>93.75</u>	<u>370</u>	<u>578</u>
UNIT FACTOR							
HEAT RATE MM Btu/h				<u>755</u>	<u>755</u>	<u>2,938</u>	<u>4,632</u>
FUEL CONS. * /h	<u>320MCF</u>	<u>320MCF</u>	<u>440MCF</u>	<u>32.1T</u>	<u>32.15T</u>	<u>125T</u>	<u>197.1T</u>
BOILER MFR.	<u>Rily</u>	<u>Rily</u>	<u>Rily</u>	<u>CE</u>	<u>CE</u>	<u>FW</u>	<u>FW</u>
SO2 CONTROL	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>
TYPE							
EFFICIENCY							
PARTIC. CONTROL	<u>None</u>	<u>None</u>	<u>None</u>	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>
TYPE				<u>ESP</u>	<u>ESP</u>	<u>ESP</u>	<u>ESP</u>
EFFICIENCY				<u>99.1</u>	<u>99.1</u>	<u>98.0</u>	<u>98.2</u>
FLYASH REINJECT				<u>No</u>	<u>No</u>	<u>No</u>	<u>No</u>
(lb/hr) MASS EMISSION RT				<u>88.3</u>	<u>88.3</u>	<u>430</u>	<u>544</u>
Particulates (lb/MMBtu)				<u>0.027</u>	<u>0.037</u>	<u>0.072</u>	<u>0.087</u>

STACK DATA

HEIGHT	ft	<u>450</u>	<u>450</u>				
DIAMETER	ft	<u>18</u>	<u>23.2</u>				
EXIT VEL.	ft/s	<u>52.6</u>	<u>97.4</u>				
EXIT TMP.	°F	<u>289</u>	<u>268</u>				

ANNUAL EMISSIONS

PARTICULATES(t/y) 2,150  
 SOx (t/y) 78,400  
 NOx (t/y) 1,432,400

FUEL DATA

	OIL	COAL
% SULFUR	<u>1.5</u>	<u>2.5</u>
% ASH		<u>10.9</u>
HEAT CONTENT	<u>146,429</u> Btu/gal	<u>11,777</u> Btu/lb



PLANT NAME Smith

UTILITY Gulf Power Company  
 COUNTY Bay  
 TOWN Lynn Haven  
 LONG/LAT GRW \_\_\_\_\_  
 LONG/LAT UTM \_\_\_\_\_  
 AQCR REG. \_\_\_\_\_  
 RIVER BASIN \_\_\_\_\_

NAME PLATE CAP. Mw ~~201.4~~ 380  
 ANN. GENERATION Mwh \_\_\_\_\_  
 HEAT RATE MM Btu/h \_\_\_\_\_  
 CONSTRUCTION DATE \_\_\_\_\_  
 ON-LINE DATE \_\_\_\_\_  
 RETIREMENT DATE \_\_\_\_\_  
 No. UNITS 2

UNIT DATA

	1	2	3	4	5	6
STATUS	_____	_____	_____	_____	_____	_____
FIRING CAPAB.	_____	_____	_____	_____	_____	_____
FUEL	_____	_____	_____	_____	_____	_____
UNIT CAPACITY Mw	<u>149.6</u>	<u>190.4</u>	_____	_____	_____	_____
UNIT FACTOR	_____	_____	_____	_____	_____	_____
HEAT RATE MM Btu/h	<u>1,320</u>	<u>1,670</u>	_____	_____	_____	_____
FUEL CONS. * /h	<u>56.4</u>	<u>71.3</u>	_____	_____	_____	_____
BOILER MFR.	<u>CE</u>	<u>CE</u>	_____	_____	_____	_____
SO2 CONTROL TYPE	<u>None</u>	<u>None</u>	_____	_____	_____	_____
EFFICIENCY	_____	_____	_____	_____	_____	_____
PARTIC. CONTROL TYPE	<u>ESP</u>	<u>ESP</u>	_____	_____	_____	_____
EFFICIENCY	<u>99.1</u>	<u>99.1</u>	_____	_____	_____	_____
FLYASH REINJECT	_____	_____	_____	_____	_____	_____
(lb/hr) MASS EMISSION RT	<u>155.7</u>	<u>207.4</u>	_____	_____	_____	_____
Particulates (lb/MMBtu)	<u>0.012</u>	<u>0.048</u>	_____	_____	_____	_____

STACK DATA

HEIGHT	ft	<u>200</u>	_____	_____	_____	_____
DIAMETER	ft	<u>18</u>	_____	_____	_____	_____
EXIT VEL.	ft/s	<u>64.5</u>	_____	_____	_____	_____
EXIT TMP.	°F	<u>263</u>	_____	_____	_____	_____

ANNUAL EMISSIONS

PARTICULATES(t/y) 900  
 SOx (t/y) 1,400  
 NOx (t/y) ~~1,000~~ 9,000

FUEL DATA

	OIL	COAL
% SULFUR	<u>0.4</u>	<u>0.7</u>
% ASH	_____	<u>12.7</u>
HEAT CONTENT	<u>140,500 Btu/gal</u>	<u>11,709 Btu/lb</u>







UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.  
ATLANTA, GEORGIA 30365

**NOV 12 1992**

4APT-AEB

Mr. Clair H. Fancy, P.E., Chief  
Bureau of Air Regulation  
Florida Department of Environmental  
Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

RE: TECO Big Bend Proposed Modification

Dear Mr. Fancy:

As requested by your letter dated September 24, 1992, we have reviewed the proposed modification to the above referenced facility consisting of changes to the coal yard. It appears from the information submitted that the emissions increase resulting from the modification will be approximately 14 tons per year of particulate matter. If this is the case, then the increase would be a minor modification to an existing major source and not subject to Prevention of Significant Deterioration (PSD) requirements. Even though the proposed change would require a modification of the Conditions of Certification under Florida's Power Plant Siting Act (PPSA), there would be no need to modify the existing PSD permit for the facility (PSD-FL-040).

Thank you for the opportunity to review this package. If you have any questions or comments, please contact Mr. Gregg Worley of my staff at (404) 347-5014.

Sincerely yours,

*for Gregg M. Worley*  
Brian L. Beals, Chief  
Source Evaluation Unit  
Air Enforcement Branch

**RECEIVED**

**NOV 17 1992**

Division of Air  
resources Management

RECEIVED

JUN 26 1995

BEFORE THE STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of  
Air Regulation

IN RE: TAMPA ELECTRIC COMPANY )  
BIG BEND STATION UNIT 4 )  
MODIFICATION OF CONDITIONS ) DEP CASE NO. PA 79-12D  
OF CERTIFICATION PA 79-12 ) OGC CASE NO. 94-0914  
HILLSBOROUGH COUNTY, FLORIDA )  
\_\_\_\_\_ )

FINAL ORDER MODIFYING  
CONDITIONS OF CERTIFICATION

On August 17, 1981, the Governor and Cabinet, sitting as the Siting Board, issued a final order approving certification for Tampa Electric Company's (TECO's) Big Bend Station Unit 4. That certification order approved the construction and operation of a 486 MW (gross) coal-fired facility and associated facilities located in Hillsborough County, Florida.

On January 30, 1995 and March 6, 1995, TECO filed a request to modify the conditions of certification pursuant to Section 403.516(1)(b), Florida Statutes. TECO requested that the conditions be modified to approve changes to the Conditions of Certification for the continuous emission requirements necessary to implement in plant modification of flue gas treatment systems and operation. These proposed changes allow treatment of flue gas from Unit 3 in the Unit 4 FGD scrubbers.

Copies of TECO's proposed modification were distributed to all parties to the certification proceeding and made available for public review. On April 7, 1995, Notice of Proposed Modification of power plant certification was published in the Florida Administrative Weekly. As of April 3, 1995, all parties to the original proceeding had received copies of the

intent to modify. 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 notice of modification or if a person whose substantial interests will be affected by the proposed modification objects in writing within 30 days after issuance of the public notice. Written objections to the proposed modifications were not received by the Department. Accordingly, in the absence of any timely objection,

**IT IS ORDERED:**

The proposed changes to TECO Big Bend Station as described in the January 30, 1995, and March 6, 1995, requests for modification are APPROVED. Pursuant to Section 403.516(1)(b), F.S., the conditions of certification for the TECO Big Bend Station are MODIFIED as follows:

Condition I.B. Air Monitoring Program

1. The permittee shall install and operate continuously monitoring devices for the Unit 4 boiler exhausts for sulfur dioxide, nitrogen dioxide, oxygen and/or carbon dioxide, and opacity. The monitoring devices shall meet the applicable requirements of Section ~~17-2-007~~-FAE 62-214, F.A.C., 40 CFR 60.47a., and 40 CFR 75. The opacity monitor shall be placed in the duct work between the electrostatic precipitator and the FGD scrubber.

a. When Units 3 and 4 are operating in the integrated mode (Unit 3 flue gases routed through the Unit 4 FGD system), the continuous monitoring system will measure sulfur dioxide emissions at the inlet and outlet of the Unit 4 FGD system and from the Unit 3 stack, while emissions of nitrogen oxides, oxygen and/or carbon dioxide, and opacity shall be measured in the Unit 4 duct prior to the FGD system.

b. When Units 3 and 4 are not operating in the integrated mode, the continuous monitoring system will measure only Unit 4's inlet duct and stack for SO<sub>2</sub> emissions. The emissions of nitrogen oxides, oxygen and/or carbon dioxide, and opacity shall be measured in the Unit 4 duct prior to the FGD system.

Any party to this Notice has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the clerk of the Department of Environmental Protection in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal

accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date that the Final Order is filed with the Department of Environmental Protection.

DONE AND ENTERED this 19<sup>th</sup> day of June, 1995 in Tallahassee, Florida.

STATE OF FLORIDA, DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant to S120.52  
Florida Statutes, with the designated  
Department Clerk, receipt of which  
is hereby acknowledged.

Rebecca J. [Signature]      6/19/95  
Deputy Clerk                      Date

for [Signature]  
VIRGINIA B. WETHERELL  
SECRETARY  
3900 Commonwealth Boulevard  
Tallahassee, FL 32399-3000

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing was sent by U.S. Mail to the following this 19<sup>th</sup> day of June, 1995.

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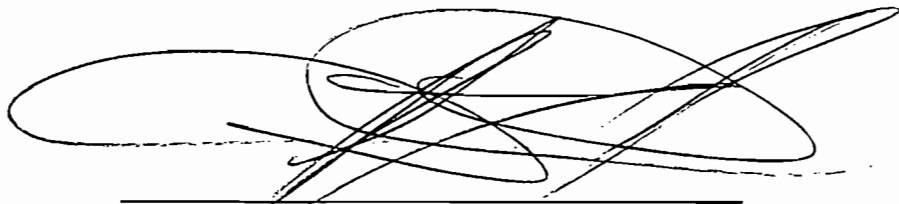
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