

RECEIVED

OCT 10 1995

October 6, 1995

Bureau of  
Air Regulation

Mr. Clair H. Fancy  
Chief Air Regulation  
Division of Air Resources Management  
Florida Department of Environmental Protection  
2600 Blair Stone Road, MS 5505  
Tallahassee, Florida 32399-2400

**Certified Mail No. P 278 134 865**  
**Return Receipt Requested**

**Re: Tampa Electric Company**  
**Big Bend Unit 3**  
**Request to Conduct Petroleum Coke Test Burn**  
**Operating Permit No. A029-179911**

Dear Mr. Fancy:

Tampa Electric Company (TEC) is evaluating the feasibility of utilizing petroleum coke as a supplemental fuel in our Big Bend Unit 3 boiler. As you know, petroleum coke is produced by subjecting residual oil to heat and pressure, and due to its high heating value and low ash content, it is considered an attractive fuel supplement for coal-fired boilers. A representative analysis of petroleum coke is attached (Attachment 1) for your review.

Unit 3 is currently operating under the above referenced operating permit. TEC is requesting an amendment to our operating permit to allow a test burn of petroleum coke in Unit 3.

TEC proposes to blend up to 20 percent petroleum coke with the typical coal supply for a period of twenty-one (21) days. All testing shall be concluded within sixty (60) days of when petroleum coke is first introduced in Unit 3. For your use, attached (Attachment 2) is a typical coal analysis for Unit 3.

TEC has evaluated petroleum coke characteristics at the proposed blending ratio and is confident all existing emission limits will be met during the test burn period. Emission calculations for SO<sub>2</sub> and particulate matter during various scenarios are shown in Attachment 3. The lower ash content of petroleum coke should not cause an increase in particulate emissions during this test burn. As shown in Attachment 3, SO<sub>2</sub> and PM emissions will be below the permitted limits in all of the operating scenarios. It is estimated that NO<sub>x</sub> emissions will remain unchanged. Please note that for these emissions calculations, 6.0 percent sulfur and 0.4 percent ash content were used for the petroleum coke.

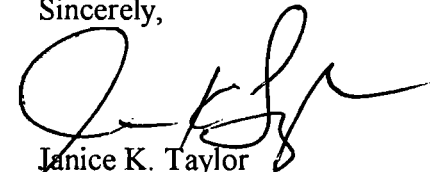
Mr. Clair Fancy  
October 6, 1995  
Page 2 of 2

TEC will conduct performance testing of the boiler exhaust gas at a location upstream of the flue gas desulfurization (FGD) system to avoid sampling mixed Units 3 and 4 gases. A description of the sampling technique is provided in Attachment 4.

TEC proposes to begin this test burn immediately upon Department approval. Therefore, your expeditious review of this request is appreciated.

If you have any questions on this matter, please feel free to call me at (813) 228-4839.

Sincerely,



Janice K. Taylor  
Senior Engineer  
Environmental Planning

EP\gm\JKT733

Enclosures

c: Mr. Al A. Linero, FDEP - Tallahassee  
Mr. Jerry Kissel, FDEP - Tampa  
Mr. J. Campbell, EPCHC

# **ATTACHMENT 1**

## TYPICAL PETROLEUM COKE ANALYSIS

TYPICAL ANALYSIS, DRY BASIS	RANGE
Sulfur, wt. %	4.0 - 6.5
Volatiles, Content, wt. %	9 - 14
Vanadium, ppm	500 - 1900
Nickel, ppm	100 - 200
Iron, ppm	50 - 100
Silicon, ppm	100 - 500
Nitrogen, wt. %	.6 - 1.6
Ash, wt. %	< 1.0
Calorific Value, BTU/#	13,500 - 14,000
Carbon, wt. %	85.0 - 95.0
Moisture, wt. %	7 - 10

## PETROLEUM COKE TRACE METAL ANALYSIS

### FROM TYPICAL SUPPLIER

TRACE ELEMENT	RESULTS	
	SUPPLIER 1 mg/kg (ppm)	SUPPLIER 2 mg/kg (ppm)
ALUMINUM	279.0	69.8
ANTIMONY	< 0.5	< 0.5
ARSENIC	< 0.1	< 0.1
BARIUM	5.98	5.20
BERYLLIUM	< 0.01	< 0.01
CADMIUM	< 0.01	< 0.01
CHROMIUM	19.8	15.6
CHROMIUM	< 0.5	< 0.5
COPPER	4.3	5.7
FLUORINE	< 0.5	< 0.5
LEAD	1.87	1.09
MANGANESE	< 0.05	< 0.05
MERCURY	105.0	203.0
NICKEL	< 0.1	< .01
SELENIUM	577.0	514.0
SILICON	< 0.5	< 0.5
SILVER	215.0	223.0
SODIUM	< 0.01	< 0.01
THALLIUM	534.0	750.0
VANADIUM	15.7	15.8
ZINC		

## **ATTACHMENT 2**

From: Tampa Electric Company  
 Corporate Environmental Services  
 Laboratory Services Department  
 Ph. (813) 228-4938

October 6, 1995

To: File, Central Testing Lab  
 Dick Brooks & Karen Tuntas, BB  
 Bill Katzaras, Big Bend  
 R. Duran, P-4  
 Jamie Woodlee, Envir. Plan.

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

**Sample I.D. AA25829** Location code: BB-WK-3  
 Location Description: Big Bend Wkly Coal Comp Unit 3  
 Sample collector: BIG BEND Sample collection date: 09/17/95  
 Lab submittal date: 09/19/95 Time: 13:41  
 Sample Matrix: Coal

**Coal Identification Information**  
 Week ending date: 09/17/95

Parameter	Result	Units	MDL
Total Moisture	11.2	%	0.30
BTU in Coal, as Determined	12326	BTU/Lb.	1
Pounds SO <sub>2</sub> / Million BTU, Coal	4.38	Lbs. SO <sub>2</sub> /MMBTU	
Ash, as Received	7.11	%	0.4
Ash, Dry Basis	8.01	%	0.40
BTU, as Received	11749	BTU/Lb	100
BTU, Dry Basis	13231	BTU/Lb.	100
Sulfur, as Received	2.71	%	0.08
Sulfur, Dry Basis	3.05	%	0.08
BTU, Moisture-Ash Free, Calc.	14383	BTU/Lb.	100
Sulfur in Coal, as Determined	2.84	%	0.01
Magnesium Oxide, MgO, X-Ray	0.80	%	
Sodium Oxide, Na <sub>2</sub> O, X-Ray	0.66	%	
Titanium Dioxide, TiO <sub>2</sub> , X-Ray	1.23	%	
Iron Oxide, Fe <sub>2</sub> O <sub>3</sub> , X-Ray	25.32	%	
Silicon Dioxide, SiO <sub>2</sub> , X-Ray	41.37	%	
Sulfur Trioxide, SO <sub>3</sub> , X-Ray	3.64	%	
Calcium Oxide, CaO, X-Ray	4.20	%	
Potassium Oxide, K <sub>2</sub> O, X-Ray	1.99	%	
Phosphorus, P <sub>2</sub> O <sub>5</sub> , X-Ray	0.18	%	
Aluminium Oxide, AL <sub>2</sub> O <sub>3</sub> , X-Ray	17.89	%	
Silica Value, Ash Mineral Analy	57.68	%	
T250 from Ash Mineral Analyses	2274	Degrees F	
Undetermined, Ash Mineral Analys	2.72	%	
Slagging Index	1.662	0.6-2.0 Medium	
Fouling Index	0.360	0.2-0.5 Medium	

## **ATTACHMENT 3**

TEC BIG BEND UNIT 3 PETROLEUM COKE TEST BURN  
ESTIMATED ACTUAL EMISSION RATES

*Data*

Parameter <sup>1</sup>	Units	Existing Value	Proposed Value
Unit 3 Heat Input	MMBtu/hr	4,115	4,115
Pet. Coke Heat Content	Btu/lb	N/A	14,400
Pet. Coke Sulfur Content	wt pct	N/A	6.00
Pet. Coke Ash Content	wt pct	N/A	0.4
Coal Heat Content	Btu/lb	13,230	13,230
Coal Sulfur Content	wt pct	3.05	3.05
Coal Ash Content	wt pct	8.0	8.0
FGD Removal Efficiency	pct	90.0	90.0
ESP Removal Efficiency	pct	99.4	99.4
Allowable SO <sub>2</sub> Emissions - 2 Hr Avg.	lb/MMBtu	6.5	6.5
Allowable SO <sub>2</sub> Emissions - 3 Hr Avg. <sup>2</sup>	ton/hr	31.5	31.5
Allowable SO <sub>2</sub> Emissions - 24 Hr Avg. <sup>2</sup>	ton/hr	25	25
Allowable PM Emissions	lb/MMBtu	0.1	0.1

*Calculations*

Parameter <sup>1</sup>	Units	Value		
		Coal	Pet. Coke	Blend
Existing Actual Scenario	pct	100	0	N/A
Usage Rate	lb/hr	311,036	0	311,036
Sulfur Into Boiler	lb/hr	9,486.6	0.0	9,486.6
Sulfur at FGD Inlet	lb/hr	9,486.6	0.0	9,486.6
SO <sub>2</sub> at FGD Inlet	lb/hr	18,973.2	0.0	18,973.2
SO <sub>2</sub> at FGD Inlet	lb/MMBtu	4.6	0.0	4.6
SO <sub>2</sub> at FGD Outlet	lb/hr	1,897.3	0.0	1,897.3
SO <sub>2</sub> at FGD Outlet	lb/MMBtu	0.5	0.0	0.5
ESP Inlet PM <sub>3</sub>	lb/hr	12,441.4	0.0	12,441.4
ESP Outlet PM	lb/hr	74.6	0.0	74.6
ESP Outlet PM	lb/MMBtu	0.018	0.0	0.018
Proposed Test Burn Scenario	pct	80.0	20.0	N/A
Usage Rate	lb/hr	244,375	61,265	305,640
Sulfur Into Boiler	lb/hr	7,453.4	3,675.9	11,129.3
Sulfur at FGD Inlet	lb/hr	7,453.4	3,675.9	11,129.3
SO <sub>2</sub> at FGD Inlet	lb/hr	14,906.8	7,351.8	22,258.6
SO <sub>2</sub> at FGD Inlet	lb/MMBtu	4.6	8.3	5.4
SO <sub>2</sub> at FGD Outlet	lb/hr	1,490.7	735.2	2,225.9
SO <sub>2</sub> at FGD Outlet	lb/MMBtu	0.5	0.8	0.5
ESP Inlet PM <sub>3</sub>	lb/hr	9,775.0	122.5	9,897.5
ESP Outlet PM	lb/hr	58.6	0.7	59.3
ESP Outlet PM	lb/MMBtu	0.018	0.001	0.014

- 1 Fuel sulfur, ash, and heat content represent typical coal and petroleum coke analyses. Data for fuel sulfur, ash, heat content, and usage rates expressed on a dry basis.
- 2 Combined total for Big Bend Units No. 1 through No. 3.
- 3 Based on AP-42 emission factor of 10 \* A, where A equals weight pct ash content.



## **ATTACHMENT 4**

**TAMPA ELECTRIC COMPANY  
BIG BEND UNIT 3  
COAL/PETROLEUM COKE TEST BURN PROTOCOL**

---

Tampa Electric Company (TEC) proposes the following test plan to gather air emissions data on Big Bend Unit #3 for the purpose of evaluating fuel blends of coal and petroleum coke (pet coke). The plan allows comparison of air emissions of baseline tests (100% coal) to air emissions while firing coal/petcoke blend containing a maximum of 20%, by weight, of pet coke (80% coal/20% pet coke).

The baseline test burn of 100% coal will be conducted for seven (7) days. The blend test burn will be conducted for twenty-one (21) days.

Sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and opacity emissions data shall be reported using continuous emissions monitors (CEMS), located in the inlet ductwork prior to the flue gas desulfurization (FGD) system during baseline and trial burn tests. These systems will be quality assured pursuant to 40 CFR 75, Appendix B. The data assessment report from 40 CFR 60, Appendix F, for the most recent relative accuracy test audit (RATA) and most recent cylinder gas audit (CGA), will be submitted with the fuel blend test report.

The baseline test will be conducted for no less than seven (7) days with the source operating under normal conditions. During the baseline test period, EPA reference method emissions testing will be performed for particulate matter and sulfuric acid mist. During these tests Unit #3 will be operated at 90%-100% of maximum capacity.

The fuel blend testing (80% coal, 20% petroleum coke blend) will be conducted for twenty-one (21) days with the unit operating under normal conditions. During the test burn period, EPA reference method emissions testing will be performed for particulate matter and sulfuric acid mist. During these tests Unit #3 will be operated at 90%-100% of maximum capacity.

All performance testing will be done at a location upstream of FGD system as shown on attached drawing. This testing location will avoid sampling mixed Unit 3 and Unit 4 gases.

The following table summarizes information to be collected during the baseline and fuels blend tests.

	SO <sub>2</sub>	NO <sub>x</sub>	Fuel Analysis	Particulate/Acid Mist
Baseline Tests (7 Days)	Weekly composite fuel analysis and CEM data	CEM Data	Weekly composite fuel analysis <sup>1</sup>	EPA Reference Methods
Blend Tests (21 Days)	Weekly composite fuel analysis CEM data during reference tests	CEM Data	Weekly composite fuel analysis <sup>1</sup>	EPA Reference Methods

<sup>1</sup>Composite weekly fuel analysis results will be supplied during the baseline and test burn scenarios. Fuel analysis to include the following:

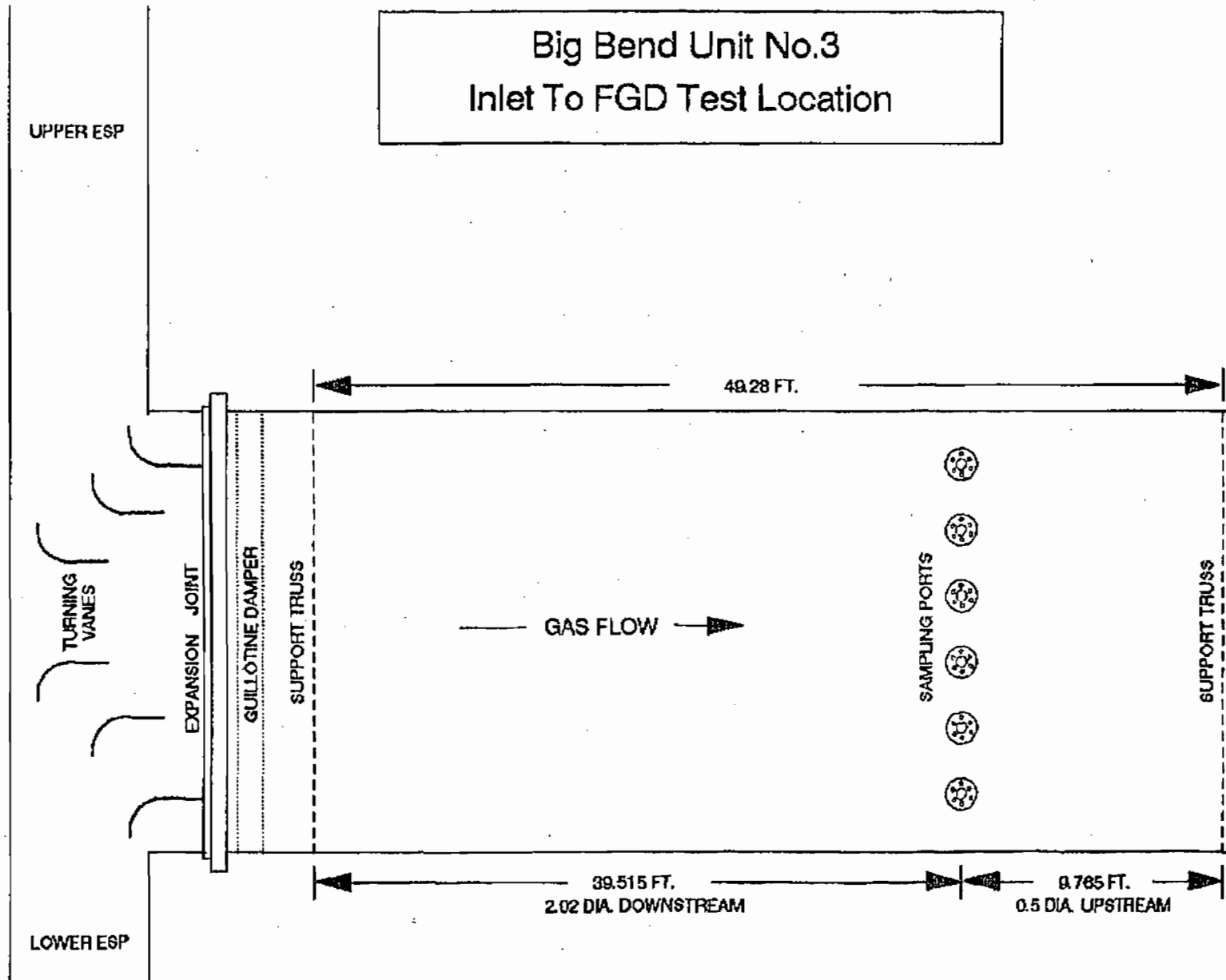
**FUEL ANALYSIS**

Sulfur, wt. %  
 Volatiles, Content, wt. %  
 Nitrogen, wt. %  
 Ash, wt. %  
 Calorific Value, BTU/#  
 Carbon, wt. %  
 Moisture, wt. %

**TRACE METALS ANALYSIS  
(TRACE ELEMENT)**

Beryllium  
 Chromium  
 Lead  
 Mercury  
 Nickel  
 Vanadium  
 Zinc

Big Bend Unit No.3  
Inlet To FGD Test Location





*file*

# Department of Environmental Protection

Lawton Chiles  
Governor

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Virginia B. Wetherell  
Secretary

October 27, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Janice K. Taylor  
Environmental Planning  
Tampa Electric Company  
P. O. Box 111  
Tampa, Florida 32399-2400

Dear Ms. Taylor:

Re: Permit Amendment A029-17911  
Petcoke Test Burn - Big Bend Unit 3

This is in reply to your October 6 letter requesting an amendment to your operating permit (A029-179911) allowing a test burn using petroleum coke (petcoke) blended with the typical coal fuel to provide justification for future use of petcoke.

Based on recent experience, there are indications of substantially higher carbon monoxide (CO) emissions when utilizing petcoke blends. Therefore a similar test program needs to be conducted for this pollutant. We understand, per your Attachment 4 that sulfuric acid mist and particulate tests will also be conducted although they are not mentioned in the cover letter which does mention nitrogen oxides and sulfur dioxide.

We note that the tests will be conducted at a point upstream of the scrubber to avoid mixing of Unit 3 and 4 streams. There does not appear to be a way of inferring actual stack emissions from Unit 3 unless we assume that exhaust will not be treated by the Unit 4 scrubber. For example, it is probable that sulfuric acid mist flow rate will increase by more than the 7 ton per year (TPY) PSD-significant rate prior to the scrubber and possible that the increase will be less than significant after the scrubber.

When the PSD permit was modified to allow petcoke burning at Unit 4 and integration of Unit 3 and Unit 4 flue gases for common treatment by the Unit 4 scrubber, no specific and federally enforceable commitment was made as to the reductions in emissions from Unit 3. Since Unit 3 predates the PSD and site certification requirements, there is no construction permit (or certification conditions) to amend for the purpose of federal enforceability. Thus any contemporaneous reductions from the integration which could offset increases from burning petcoke at Unit 3 could probably not be used to avoid PSD review.

Ms. Janice K. Taylor  
October 27, 1995  
Page 2

Please revise the testing protocol consistent with your objectives and resubmit it for review and approval. However before permitting a switch to petcoke on a permanent basis it will be necessary to determine the following:

o A comparison of emissions estimates before and after the petcoke project to determine if there will be any significant increases in emissions with respect to the values given in Table 212.400-2, in FAC 62-212. Actual emissions prior to burning petcoke should be calculated based on historical actual emissions. Actual emissions (representative actual annual emissions) following petcoke burning should be projected in accordance with the definitions given in FAC 62-212.200(2)(d) and 40 CFR 52.21(b)(33). The same analysis should be performed for Unit 4.

o An accounting of contemporaneous reductions for the purposes of "netting and offset calculations" with respect to PSD applicability.

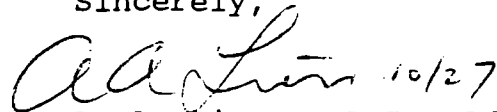
o The extent to which offsets are available for netting purposes considering reduction requirements of the Acid Rain Program under Title IV of the Clean Air Act.

o How to ensure federal enforceability for reductions used for netting purposes as well as the physical changes already made for the integration project (e.g. ducts, dampers, CEMs, controls, Dibasic Acid addition, etc.) and clearly define how compliance will be determined for the combined exhaust flows.

o Whether or not Units 3 and 4 should be permitted together in a common federally enforceable permit.

Please review the protocol for the test burn and update accordingly. If you wish to set up a meeting to discuss the permitting issues please call me or John Reynolds at (904)488-1344.

Sincerely,



A. A. Linero, P.E., Administrator  
New Source Review Section

AAL/aal/l

CC: J. Kissel, SWD  
L. Deken, HCEPC  
H. Oven, DEP

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1.  Addressee's Address
- 2.  Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:  
  
Ms. Janice K. Taylor  
Environmental Planning  
Tampa Electric Company  
Post Office Box 111  
Tampa, Florida 33601-0111

4a. Article Number  
Z127 632 563

4b. Service Type  
 Registered     Insured  
 Certified     COD  
 Express Mail     Return Receipt for Merchandise

7. Date of Delivery    NOV - 3 1995

5. Signature (Addressee)

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

6. Signature (Agent)  
*J. Miller*

PS Form 3811, December 1991    \*U.S. GPO: 1993-352-714    **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Z 127 632 563



**Receipt for Certified Mail**

No Insurance Coverage Provided  
Do not use for International Mail  
(See Reverse)

Sent to <i>Janice Taylor</i>	
Street and No. <i>PO Box 111</i>	
P.O., State and ZIP Code <i>Tampa, FL 33601-0111</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date <i>10/27/1995</i> <i>Pet Edge Big Bend #3</i>	

PS Form 3800, March 1993



December 8, 1995

**Certified Mail # P880 003 382**  
**Return Receipt Requested**

Mr. A.A. Linero, P.E., Administrator  
New Source Review Section  
Florida Department of Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

**RECEIVED**

**DEC 11 1995**

**BUREAU OF  
AIR REGULATION**

**Re: Tampa Electric Company**  
**Big Bend Unit 3**  
**Request to Conduct Petroleum Coke Test Burn**  
**Operating Permit No. AO29-179911**

Dear Mr. Linero:

Pursuant to your letter of October 27, 1995 and our meeting on November 20, 1995, please find enclosed an amended test protocol for test burning petroleum coke in our Big Bend Unit 3. As we discussed, TEC has no objection to performing tests for carbon monoxide (CO) during the baseline and test burn periods.

Based upon your suggestion, TEC has re-examined our proposed location for sulfuric acid mist testing, along with the Big Bend Unit 4 outage schedule. TEC proposes to test for sulfuric acid mist along with particulate matter and carbon monoxide after the scrubber for the fuel blend burn testing while Big Bend Unit 4 is off-line. In addition, to clarify our test protocols for all pollutants, TEC plans to compare the baseline (normal unscrubbed operations) emissions to the scrubbed fuel blend test burn emissions. These tests would be conducted either during a forced outage or the fuel outage for Big Bend 4 planned in early 1996.

With regards to PSD applicability review, upon completion of the test burn, TEC will compile an emissions comparison for screening for PSD applicability. As in the case of Big Bend 4, if necessary TEC will expand the PSD applicability in accordance with FAC 62-212.200(2)(d) and 40 CFR 52.21(b)(33). TEC will submit the test report along with the PSD analysis to the Department within forty-five (45) days upon completion of the test burn activities.

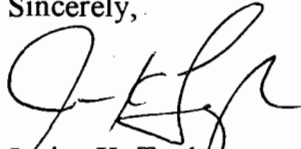
Finally, as stated at our meeting, TEC is amendable to burn the coal/pet coke blend in Big Bend Unit 3 only while this unit is in the integration mode of operations (i.e. scrubbed). TEC is willing to work with the Department to develop language in the final permit change to provide the Department with reasonable assurance the this fuel blend will be burned only during scrubber operations while maintaining operation flexibility for TEC.



Mr. A.A. Linero, P.E  
December 8, 1995  
Page Two

I would appreciate your Department's expeditious review and issuance of this test burn request. Please feel free to call me at (813) 228-4839 if you have any further questions.

Sincerely,



Janice K. Taylor  
Senior Engineer  
Environmental Planning

EP\gm\JKT737

**Attachments**

c/enc: Mr. John Reynolds, FDEP  
Mr. Jerry Kissel, FDEP - Tampa  
Mr. J. Campbell, EPCHC

**TAMPA ELECTRIC COMPANY  
BIG BEND UNIT 3  
COAL/PETROLEUM COKE TEST BURN PROTOCOL**

---

Tampa Electric Company (TEC) proposes the following test plan to gather air emissions data on Big Bend Unit #3 for the purpose of evaluating fuel blends of coal and petroleum coke (pet coke). The plan allows comparison of air emissions of baseline tests (100% coal) to air emissions while firing coal/petcoke blend containing a maximum of 20%, by weight, of pet coke (80% coal/20% pet coke).

The baseline test burn of 100% coal will be conducted for seven (7) days. The blend test burn will be conducted for twenty-one (21) days.

Sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and opacity emissions data shall be reported using continuous emissions monitors (CEMS), ~~located in the inlet ductwork prior to the flue gas desulfurization (FGD) system~~ during baseline and trial burn tests. These systems will be quality assured pursuant to 40 CFR 75, Appendix B. The data assessment report from 40 CFR 60, Appendix F, for the most recent relative accuracy test audit (RATA) and most recent cylinder gas audit (CGA), will be submitted with the fuel blend test report.

The baseline test will be conducted for no less than seven (7) days with the source operating under normal conditions. During the baseline test period, EPA reference method emissions testing will be performed for particulate matter, ~~and sulfuric acid mist and carbon monoxide~~. During these tests Unit #3 will be operated at 90%-100% of maximum capacity.

The fuel blend testing (80% coal, 20% petroleum coke blend) will be conducted for twenty-one (21) days with the unit operating under normal conditions. During the test burn period, EPA reference method emissions testing will be performed for particulate matter, ~~and sulfuric acid mist and carbon monoxide~~. During these tests Unit #3 will be operated at 90%-100% of maximum capacity.

~~All performance testing for particulate matter and carbon monoxide will be done at a location upstream of FGD system as shown on attached drawing. This testing location will avoid sampling mixed Unit 3 and Unit 4 gases. Sulfuric acid mist testing will be done downstream of the FGD system.~~

Performance testing for particulate matter, carbon monoxide and sulfuric acid mist will be done at a location upstream of the FGD system during baseline conditions. The fuel blend performance testing of the above parameters will be done in the stack downstream of the scrubber.

The following table summarizes information to be collected during the baseline and fuels blend tests.

	SO <sub>2</sub>	NO <sub>x</sub>	Fuel Analysis	Particulate/Acid Mist/ <u>Carbon Monoxide</u>
Baseline Tests (7 Days) scrubbed	Weekly composite fuel analysis and CEM data	CEM Data	Weekly composite fuel analysis <sup>1</sup>	EPA Reference Methods
Blend Tests (21 Days) unscrubbed	Weekly composite fuel analysis CEM data during reference tests	CEM Data	Weekly composite fuel analysis <sup>1</sup>	EPA Reference Methods

<sup>1</sup>Composite weekly fuel analysis results will be supplied during the baseline and test burn scenarios. Fuel analysis to include the following:

**FUEL ANALYSIS**

Sulfur, wt. %  
Volatiles, Content, wt. %  
Nitrogen, wt. %  
Ash, wt. %  
Calorific Value, BTU/#  
Carbon, wt. %  
Moisture, wt. %

**TRACE METALS ANALYSIS  
(TRACE ELEMENT)**

Beryllium  
Chromium  
Lead  
Mercury  
Nickel  
Vanadium  
Zinc



# Department of Environmental Protection

Lawton Chiles  
Governor

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Virginia B. Wetherell  
Secretary

January 11, 1996

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

Ms. Janice K. Taylor  
Senior Engineer  
Environmental Planning  
Tampa Electric Company  
P.O. Box 111  
Tampa, Florida 33601-0111

Dear Ms. Taylor:

Re: Request to Allow Special Testing - Petroleum Coke Test Burn/  
Big Bend Unit 3

The Department proposes to allow Tampa Electric Company (TEC) to conduct special testing of a 80%/20% blend of coal/petroleum coke as outlined in TEC's letter dated December 8, 1995. This action does not constitute an amendment of the current operating permit (A029-179911) nor does it grant approval to burn petroleum coke beyond the test period which is not to exceed three weeks. As indicated previously, we remain concerned about the issues outlined in our October 27, 1995 letter.

Before conducting the tests, you must publish the enclosed Notice of Intent to Allow Special Testing in a local newspaper of general circulation in order to notify the public of this temporary change in operation. Please submit any comments you may wish to have considered concerning the Department's proposed action to Mr. A. A. Linero, P.E., at the above address.

Sincerely,

C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

CHF/jr/t  
Enclosure

cc: W. Thomas, SWD  
E. Deken, EPCHC

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
NOTICE OF INTENT TO ALLOW SPECIAL TESTING

The Department of Environmental Protection (Department) gives notice of its intent to authorize special testing for Tampa Electric Company, Inc., P.O. Box 111, Tampa, Florida 33601-0111. This company operates a coal-fired power generation facility located on Big Bend Road, near Ruskin, in Hillsborough County, Florida. The authorization allows the temporary firing of a 80% coal/20% petroleum coke blend (by weight) in Big Bend Unit 3 scheduled for February/March 1996. Exhaust gases from Unit 3 will be scrubbed by the Unit 4 flue gas desulfurization system for the duration of the test. This temporary change in operation will not exceed three weeks in duration and is not expected to cause or contribute to a violation of any air pollution standard or adversely affect the environment.

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

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

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application/request have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code.

The application file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays at the following locations:

Department of Environmental Protection  
111 - South Magnolia Drive  
Tallahassee, Florida 32301

Department of Environmental Protection  
Southwest District Office  
3804 Coconut Palm Drive  
Tampa, Florida 33619-8218

Environmental Protection Commission of  
Hillsborough County  
1410 North 21st Street  
Tampa, Florida 33605

Any person may send written comments on the proposed action to Administrator, New Source Review Section, at the Department's Tallahassee address. All comments received within 14 days of the publication of this notice will be considered.

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1.  Addressee's Address
- 2.  Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:  
*Janice K. Taylor*  
*Tampa Electric*  
*P.O. Box 111*  
*Tampa, FL 33601-0111*

4a. Article Number  
*2 127 633 145*

4b. Service Type  
 Registered  Insured  
 Certified  COD  
 Express Mail  Return Receipt for Merchandise

7. Date of Delivery  
*1/16/96*

5. Signature (Addressee)

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


6. Signature (Agent)  
*[Signature]*

**DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

2 127 633 145

**Receipt for Certified Mail**  
 No Insurance Coverage Provided  
 Do not use for International Mail  
 (See Reverse)

  
 UNITED STATES POSTAL SERVICE

Sent to <i>Janice Taylor</i>	
Street and No. <i>TECO</i>	
P.O., State and Zip Code <i>Tampa, FL</i>	
Postage	
Certified Fee	\$
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date <i>BB Unit 3</i>	<i>1-12-96</i>

PS Form 3800, March 1993



**RECEIVED**

**FEB 06 1996**

**BUREAU OF  
AIR REGULATION**

February 1, 1996

Mr. A. A. Linero, P.E., Administrator  
New Source Review Section  
Florida Department of Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

**Via Facsimile and  
Certified Mail No. P 278 134 933  
Return Receipt Requested**

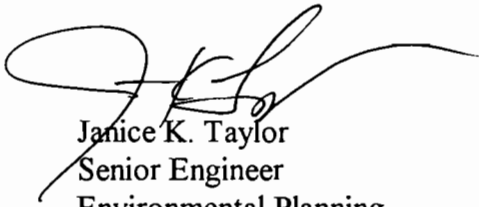
**Re: Tampa Electric Company  
Big Bend Unit 3  
Petroleum Coke Test Burn  
Operating Permit No. AO29-179911**

Dear Mr. Linero:

Enclosed please find proof of publication of the Notice of Intent to Issue approval authorizing a test burn for a blend of petroleum coke and coal in Big Bend Unit 3. The notice was published in the legal ad section of the January 19, 1996 issue of the Tampa Tribune.

If you have any additional questions, please feel free to call me at (813) 228-4839.

Sincerely,



Janice K. Taylor  
Senior Engineer  
Environmental Planning

EP\gm\JKT739

Enclosures

c: Mr. Jerry Campbell, EPCHC



# THE TAMPA TRIBUNE

Published Daily

Tampa, Hillsborough County, Florida

State of Florida }  
County of Hillsborough } ss.

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

## LEGAL NOTICE

in the matter of \_\_\_\_\_

## STATE OF FLORIDA

was published in said newspaper in the issues of \_\_\_\_\_

JANUARY 19, 1996

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

*R. Putney*  
\_\_\_\_\_

Sworn to and subscribed before me, this 19 day of JANUARY, A.D. 1996

Personally Known \_\_\_\_\_ or Produced Identification \_\_\_\_\_  
Type of Identification Produced \_\_\_\_\_

(SEAL)

*Imad Kennedy*  
\_\_\_\_\_

### STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

#### NOTICE OF INTENT TO ALLOW SPECIAL TESTING

The Department of Environmental Protection (Department) gives notice of its intent to authorize special testing for Tampa Electric Company, Inc., P.O. Box 111, Tompo, Florida 33601-0111. This company operates a coal-fired power generation facility located on Big Bend Road, near Ruskin, in Hillsborough County, Florida. The authorization allows the temporary firing of a 80% coal/20% petroleum coke blend (by weight) in Big Bend Unit 3 scheduled for February/March 1996. Exhaust

gases from Unit 3 will be scrubbed by the Unit 4 flue gas desulfurization system for the duration of the test. The temporary change in operation will not exceed three weeks in duration and is not expected to cause or contribute to a violation of any air pollution standard or adversely affect the environment.

A person whose substantial interests are affected by the Department's proposed action may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600

Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information; (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the

Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and, (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application/ request have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address


of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code.

The application file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the following locations:

- Department of Environmental Protection  
111 S. South Magnolia Drive  
Tallahassee, Florida 32301
- Department of Environmental Protection  
Southwest District Office  
3804 Coconut Palm Drive  
Tampa, Florida 33619-8218
- Environmental Protection Commission of Hillsborough County  
1410 North 21st Street  
Tampa, Florida 33605

Any person may send written comments on the proposed action to Administrator, New Source Review Section, at the Department's Tallahassee address. All comments received within 14 days of the publication of this notice will be considered.

INA S. KENNEDY  
Notary Public, State of Florida  
My comm. expires Mar. 22, 1999  
No. CC187731





February 2, 1996

**RECEIVED**

**FEB 05 1996**

**BUREAU OF  
AIR REGULATION**

Mr. A. A. Linero, P.E., Administrator  
New Source Review Section  
Florida Department of Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

**Re: Tampa Electric Company  
Big Bend Unit 3  
Petroleum Coke Test Burn  
Operating Permit No. AO29-179911**

Dear Mr. Linero:

Please be informed that Tampa Electric Company (TEC) proposes to begin baseline testing on Big Bend Unit 3 from February 15 through February 21, 1996. The emissions performance tests are scheduled to be conducted from February 15 through February 18.

The petroleum coke/coal fuel blend test burn will begin on February 22, 1996. Emissions performance tests are scheduled for February 27 through March 1.

If you have any questions, please feel free to call me at (813) 228-4839.

Sincerely,

Janice K. Taylor  
Senior Engineer  
Environmental Planning

EP\gm\JKT740

c: Mr. Jerry Kissell, FDEP - Tampa  
Mr. Jerry Campbell, EPCHC

**COMMISSION**

DOTTE BERGER  
PHYLLIS BUSANSKY  
JOE CHILLURA  
CHRIS HART  
JIM NORMAN  
ED TURANCHIK  
SANDRA WILSON

**EXECUTIVE DIRECTOR**

ROGER P. STEWART



ADMINISTRATIVE OFFICES, LEGAL &  
WATER MANAGEMENT DIVISION  
1900 - 9TH AVENUE  
TAMPA, FLORIDA 33605  
TELEPHONE (813) 272-6960  
FAX (813) 272-5157

AIR MANAGEMENT DIVISION  
TELEPHONE (813) 272-5530

WASTE MANAGEMENT DIVISION  
TELEPHONE (813) 272-5788

WETLANDS MANAGEMENT DIVISION  
TELEPHONE (813) 272-7104

**MEMORANDUM**

DATE: February 7, 1996

TO: John Reynolds

FROM: Liz Deken *LD*

SUBJECT: Tampa Electric Company - Big Bend Unit 3 Petroleum Coke Test Burn

I have received a copy of the proof of publication from Tampa Electric Company (TEC) regarding the test burn at their Big Bend facility. I have drafted some conditions of authorization for the test burn that we believe should be included. The conditions are similar to what has been required for all other test burns conducted at TEC (petroleum coke test burns at Gannon and Big Bend and tire derived fuel test burn at Gannon). The test burn for the Big Bend Unit 4 petroleum coke test burn also had conditions of authorization.

While it is true that the SO<sub>2</sub> emissions from the burning of petroleum coke and coal fuel blend will be controlled if they are required to only burn the blend when they are in the integrated mode, the FGD system will have little to no effect on the NOx emissions. We had difficulty with the Big Bend Unit 4 test burn results with regard to determining if there was an increase in emissions for NOx because very little information was documented on the actual boiler operating conditions. The fuel NOx range for the petroleum coke is slightly higher than for the coal used at Big Bend based on fuel analyses supplied by TEC. Therefore, it is possible that an increase in NOx emissions will occur. There is also the possibility of thermal NOx formation. We feel it is important that the baseline and test burn be conducted under equivalent conditions so that an accurate comparison can be made. In the protocol TEC submitted it does not appear that they will submit the information on the boiler operating parameters that may be needed to determine if the tests were conducted under equivalent conditions. Based on the NOx emission results from the test burn conducted on Unit 4 we expect similar results on Unit 3. The NOx increase was significant and was close to the



Mr. John Reynolds  
February 7, 1996  
Page 2

major source modification NSR threshold.

You and I have discussed these issues on the phone and I have also discussed them with Jerry Campbell. We still believe some conditions need to be specified by the Department in the authorization. Please review the attached conditions and feel free to call either Jerry or myself regarding this issue.

DRAFT

February 7, 1996

Mr. Janice K. Taylor  
Environmental Planning  
Tampa Electric Company  
Post Office Box 111  
Tampa, FL 32399-2400

RE: Tampa Electric Company  
Big Bend Facility Unit 3  
Letter of Authorization to Conduct  
Petroleum Coke Test Burn  
FDEP Permit No. AO29-179911

Dear Ms. Taylor:

The Department has reviewed the request that you provided on October 6, 1995. We have also considered the Department's legal authority to allow Tampa Electric Company (TEC) Big Bend Facility Unit 3 to conduct the performance test. Paragraph 403.061(15), Florida Statutes (F.S.) authorizes the Department to consult with any person proposing to construct, install or otherwise acquire a pollution control device or system concerning the efficacy of such device or system, or the pollution problem which may be related to the source, device, or system. Paragraph 403.061(16), F.S., authorizes the Department to encourage voluntary cooperation by persons in order to achieve the purposes of the state environmental control act. Paragraph 403.061(18), F.S., authorizes the Department to encourage and conduct studies, investigations, and research relating to causes and control of pollution. Florida Administrative Code (F.A.C.) Rule 62-210.700(5) authorized the Department to consider variation in industrial equipment and make allowance for excess emissions that provide interest.

In accordance with the provisions of Paragraphs 403.061(15), (16), and (18), F.S., you are hereby authorized to conduct performance tests for pollutant emissions of Big Bend Facility Unit 3 while firing a blend of petroleum coke and coal.

The emissions tests are being proposed in order to gather data regarding pollutant emissions while firing a blend of petroleum coke and coal. Screening to determine whether this change results in a modification or to determine Prevention of Significant Deterioration (PSD) applicability shall be in accordance with Chapter 403, F.S.; F.A.C. Chapters 62-210 through 62-297, and 62-4; and, Title 40 Code of Federal Regulations (CFR; July, 1993 version), which will compare the actual pollutant emissions of the performance tests while firing a blend of petroleum coke and coal. The performance test results will be evaluated by Bureau

Ms. Janice Taylor  
February 7, 1996  
Page 2

DRAFT

of Air Regulation and Environmental Protection Commission of Hillsborough County (EPC).

The performance tests shall be subject to the following conditions:

1. The permittee shall notify, in writing, the DEP and EPC at least 15 days prior to commencement of the baseline and trial petroleum coke and coal blend performance tests so that the department has the opportunity to conduct a Type I or II stack audit. Two copies of the written report shall be submitted to this office within 45 days upon completion of the last test run.
2. The trial petroleum coke and coal blend performance tests shall be conducted for not more than 21 days. All testing shall be concluded within 60 days of when petroleum coke is first introduced into TEC's Big Bend Unit #3. A satisfactory emissions test will consist of a minimum of six test runs per pollutant.
3. As-burned daily fuel samples shall be collected and analyzed for sulfur, nitrogen, and metals content throughout the petroleum coke and the baseline coal test periods. Weekly composites from daily sampling shall be required; in addition and during the particulate matter test runs, a minimum of three (3) separate samples shall be taken and analyzed.
4. As-fired ash percent and ash mineral analysis for concentrations of arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and beryllium in the petroleum coke and coal blend shall be determined upon commencement and at completion of the trial burn and be compared to the concentration of the same metals in the coal used during the baseline tests.
5. Petroleum coke shall be blended with coal during the trial performance tests in the following concentration: trial petroleum coke and coal test blends limited to a maximum of 20% by weight petroleum coke. The sulfur content of the blend shall not exceed the permitted value (see AO29-179911).
6. The total weight of the petroleum coke burned during the performance tests shall not exceed the permitted rate for fuel usage.
7. Sulfur dioxide, nitrogen oxides (NOx), and opacity emissions data shall be recorded using continuous emissions monitors (CEMS) during the baseline and trial burn performance tests. If the plant CEMS are used for these tests, these systems shall be

quality assured pursuant to 40 CFR 60, Appendix F requirements. The data assessment report from 40 CFR 60, Appendix F, for the most recent relative accuracy test audit (RATA) and most recent cylinder gas audit (CGA), shall be submitted with the trial burn test report. In addition, stack tests shall be conducted for the pollutants particulate matter (PM; assume that all of PM is PM10), carbon monoxide, and sulfuric acid mist.

8. For modification purposes, the pollutant emissions results from the trial petroleum coke and coal blend performance tests shall be compared to the baseline tests conducted when firing coal only. The sulfur dioxide emission results from the trial petroleum coke and coal blend performance tests shall be compared to baseline tests conducted when firing coal only. The sulfur content of the coal used during the baseline tests shall be determined daily on an as-fired basis.

9. Performance tests shall be conducted using EPA Methods, as contained in 40 CFR 60 (Standards of Performance for New Stationary Source), or 40 CFR 61 (National Emission Standards for Hazardous Air Pollutants), or any other method approved by the Department in Accordance with F.A.C. Rule 62-297.620. Any change to the test methods must receive prior approval of the Department.

10. If additional time is needed, the permittee shall request an extension of time and provide the Department with documentation of the progress accomplished to date and shall identify what is left to be done to complete the performance tests.

11. Daily accounting of boiler operations while firing coal only and a blend of petroleum coke and coal shall be required. Records shall include, but not be limited to, heat input, steam production, pressure, temperature, MW, fuel input rates, fuel to air ratios, etc. Also, daily record keeping of the control equipment parameters shall be required and any alteration of the control equipment operational parameters between the baseline and trial burn test shall be documented and summarized in the final report. Any change in fuel pretreatment (i.e. flux addition) or in the type or degree of pre-precipitator flue gas conditioning shall be considered as part of this accounting.

12. Complete documentation (recording) of any firing of the petroleum coke and coal blend shall be required (i.e. all CEMS records; testing results; materials utilized, by weight; etc.) and kept on file for a minimum of two years.

13. The authorized trial petroleum coke and coal blend performance test shall not result in the release of objectionable odors pursuant to F.A.C. Rule 62-296.320(2).

14. Performance testing shall immediately cease if Big Bend Unit 3 operations are not in accordance with the conditions in the applicable permit (see DEP Permit No. A029-179911). Performance

Ms. Janice Taylor  
February 7, 1996  
Page 3

DRAFT

testing shall not resume until appropriate measures to correct the problem have been implemented.

15. The performance tests for pollutant emissions shall be conducted under the direct supervision and responsible charge of a professional engineer registered in Florida. The professional engineer shall sign and seal each copy of the stack report.

16. This Department action is only to authorize the performance of a single trial petroleum coke and coal blend boiler performance/emission test. Any firing of petroleum coke after the last performance test run is completed will be deemed a violation of the DEP Permit No. A029-179911.

17. The Department and EPC shall be notified in writing on the date of the last test run completion.

18. The performance tests series shall include individual tests for the blend and a baseline test conducted with the source operating at capacity. Capacity is defined as 90-100 percent of the permitted capacity. If it is impracticable to test at this capacity, the source may be tested at less than capacity; in this case subsequent source operation with a petroleum coke and coal blend, if requested and approved by the Department, is limited to 110 percent of the test load until a new test is conducted.

19. Attachments (see Attachment Section) to be incorporated:

- .TEC's October 6, 1995 letter to Mr. Clair Fancy
- .DEP October 27, 1995 letter to Ms. Janice K. Taylor
- .TEC's December 8, 1995 letter to Mr. A.A. Linero

The Department is issuing this authorization based on the belief reasonable assurances have been provided to indicate the proposed project will comply with the appropriate provisions of Florida Statutes (F.S.) Chapter 403 and Florida Administrative Code (F.A.C.) Chapters 62-210 through 62-297 and 62-4.

Should you have any questions regarding this authorization please contact John Reynolds at (904)488-1344.

Sincerely,

cc: Jerry Campbell, EPC





# Department of Environmental Protection

Lawton Chiles  
Governor

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Virginia B. Wetherell  
Secretary

February 21, 1996

## CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Janice K. Taylor  
Senior Engineer  
Tampa Electric Company  
Post Office Box 111  
Tampa, Florida 33601-0111

Dear Ms. Taylor:

Re: Letter of Authorization to Allow Special Testing - Petroleum Coke Test Burn Big Bend Unit 3. Permit No. AO29-179911

The Department has reviewed the request from Tampa Electric Company (TEC) dated October 6, 1995 and supplementary information dated December 8, 1995 to conduct performance tests while firing petroleum coke/coal blends at Big Bend Power Plant, Unit No. 3.

You are hereby authorized to conduct performance tests for pollutant emissions on Big Bend Unit No. 3 in Tampa, Hillsborough County, while firing blends of petroleum coke (petcoke) and coal. All conditions of your operating permit No. AO29-179911 related to air pollution emission limits and control equipment remain in force.

The performance tests will be conducted in order to gather data regarding pollutant emissions and operational limitations while firing blends of petcoke and coal containing a maximum of 20 percent (% by weight) petcoke. Screening to determine whether future long-term firing of petcoke/coal blends constitutes a modification subject to a review for Prevention of Significant Deterioration (PSD) shall be performed in accordance with Chapter 403, F.S.; Chapters 62-210 through 62-297 and 62-4, F.A.C.; and Title 40, Code of Federal Regulations (CFR; July 1, 1994 version). The procedure will consist of a comparison of estimates of "representative actual annual emissions" while burning petcoke/coal blends against past actual emissions while burning coal (or estimates of past actual emissions developed from 100 percent coal baseline performance tests).

The performance test results along with any modification application to allow permanent petcoke/coal burning will be reviewed by the Department's Bureau of Air Regulation (BAR) and interested agencies/parties (i.e., DEP Southwest District Office, Hillsborough County Environmental Protection Commission (EPC), US EPA, National Park Service, etc.).

The performance tests shall be subject to the following conditions:

1. The permittee shall notify, in writing, the DEP and EPC at least 15 days prior to commencement of the baseline and trial petroleum coke and coal blend performance tests so that the department has the opportunity to conduct a Type I or II stack audit. Two copies of the written report shall be submitted to this office within 45 days upon completion of the last test run.
2. The trial petroleum coke and coal blend performance tests shall be conducted for not more than 21 days. All testing shall be concluded within 60 days of when petroleum coke is first introduced into TEC's Big Bend Unit No. 3. A satisfactory emissions test will consist of a minimum of six test runs per pollutant.
3. As-burned daily fuel samples shall be collected and analyzed for sulfur, nitrogen, and metals content throughout the petroleum coke and the baseline coal test periods. Weekly composites from daily sampling shall be required; in addition and during the particulate matter test runs, a minimum of three (3) separate samples shall be taken and analyzed.
4. As-fired ash percent and ash mineral analysis for concentrations of arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and beryllium in the petroleum coke and coal blend shall be determined upon commencement and at completion of the trial burn and be compared to the concentration of the same metals in the coal used during the baseline tests.
5. Petroleum coke shall be blended with coal during the trial performance tests in the following concentration: trial petroleum coke and coal test blends limited to a maximum of 20% by weight petroleum coke. The sulfur content of the blend shall not exceed the permitted value (see AO29-179911).
6. The total weight of the petroleum coke burned during the performance tests shall not exceed the permitted rate for fuel usage.
7. Sulfur dioxide, nitrogen oxides (NO<sub>x</sub>), and opacity emissions data shall be recorded using continuous emissions monitors (CEMS) during the baseline and trial burn performance tests. If the plant CEMS are used for these tests, these systems shall be quality assured pursuant to 40 CFR 60, Appendix F requirements. The data assessment report from 40 CFR 60, Appendix F requirements. The data assessment report form 40 CFR 60, Appendix F, for the most recent relative accuracy test audit (RATA) and the most recent cylinder gas audit (CGA), shall be submitted with the trial burn test report. In addition, stack tests shall be conducted for the pollutants: particulate matter (PM; assume that all of PM is PM<sub>10</sub>), carbon monoxide, and sulfuric acid mist.
8. For modification purposes, the pollutant emissions results from the trial petroleum coke and coal blend performance tests shall be compared to the baseline tests conducted when firing coal only. The sulfur dioxide emission results from the trial petroleum coke and coal blend performance tests shall be compared to baseline tests conducted when firing coal only. The sulfur content of the coal used during the baseline tests shall be determined daily on an as-fired basis.

9. Performance tests shall be conducted using EPA Methods, as contained in 40 CFR 60 (Standards of Performance for New Stationary Sources), or 40 CFR 61 (National Emission Standards for Hazardous Air Pollutants), or any other method approved by the Department in accordance with F.A.C. 62-297.620. Any change to the test methods must receive prior approval of the Department.
10. If additional time is needed, the permittee shall request an extension of time and provide the Department with documentation of the progress accomplished to date and shall identify what is left to be done to complete the performance tests.
11. Daily accounting of boiler operations while firing coal only and a blend of petroleum coke and coal shall be required. Records shall include, but not be limited to, heat input, steam production, pressure, temperature, power, fuel input rates, fuel to air ratios, etc. Also, daily record keeping of the control equipment parameters shall be required and any alteration of the control equipment operational parameters between the baseline and trial burn test shall be documented and summarized in the final report. Any change in fuel pretreatment (i.e. flux addition), or in the type or degree of pre-precipitator flue gas conditioning shall be considered as part of this accounting.
12. Complete documentation (recording) of any firing of the petroleum coke and coal blend shall be required (i.e. all CEMs records; testing results; materials utilized, by weight; etc.) and kept on file for a minimum of two years.
13. The authorized trial petroleum coke and coal blend performance test shall not result in the release of objectionable odors pursuant to F.A.C. Rule 62-296.320(2).
14. Performance testing shall immediately cease if Big Bend Unit 3 operations are not in accordance with the conditions in the applicable permit (see DEP Permit No. AO29-179911). Performance testing shall not resume until appropriate measures to correct the problem have been implemented.
15. The performance tests for pollutant emissions shall be conducted under the direct supervision and responsible charge of a professional engineer registered in Florida. The professional engineer shall sign and seal each copy of the stack report.
16. This Department action is only to authorize the performance of a single trial petroleum coke and coal blend boiler performance/emission test. Any firing of petroleum coke after the last performance test run is completed will be deemed a violation of the DEP Permit No. AO29-179911.
17. The Department and EPC shall be notified in writing on the date of the last test run completion.
18. The performance tests series shall include individual tests for the blend and a baseline test conducted with the source operating at capacity. Capacity is defined as 90-100 percent of the permitted capacity. If it is impracticable to test at this capacity, the source may be tested at less than capacity; in this case subsequent source operation with a petroleum coke and

Ms. Janice K. Taylor  
Tampa Electric Company  
Page 4 of 4

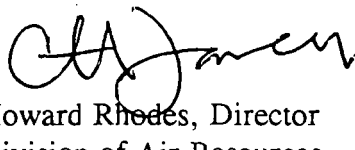
coal blend, if requested and approved by the Department, is limited to 110 percent of the test load until a new test is conducted.

19. Attachments (see Attachment Section) to be incorporated:

- TEC's October 6, 1995 letter to Mr. Clair Fancy
- DEP October 27, 1995 letter to Ms. Janice K. Taylor
- TEC's December 8, 1995 letter to Mr. A. A. Linero

The Department is issuing this authorization based on reasonable assurances which indicate the proposed project will comply with the appropriate provisions of Florida Statutes (F.S.) Chapter 403 and Florida Administrative Code (F.A.C.) Chapters 62-210 through 62-297 and 62-4.

Sincerely,

*for*   
Howard Rhodes, Director  
Division of Air Resources  
Management

HLR/al/w

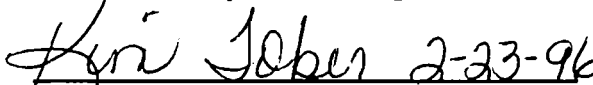
CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this PERMIT AMENDMENT and all copies were mailed by certified mail before the close of business on 2-23-96 to the listed persons.

Clerk Stamp

**FILING AND ACKNOWLEDGMENT**

**FILED**, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

  
Clerk Date

Copies to be furnished to:

Jerry Campbell, EPC  
Bill Thomas, SWD

Is your RETURN ADDRESS completed on the reverse side?

<b>SENDER:</b> <ul style="list-style-type: none"> <li>• Complete items 1 and/or 2 for additional services.</li> <li>• Complete items 3, and 4a &amp; b.</li> <li>• Print your name and address on the reverse of this form so that we can return this card to you.</li> <li>• Attach this form to the front of the mailpiece, or on the back if space does not permit.</li> <li>• Write "Return Receipt Requested" on the mailpiece below the article number.</li> <li>• The Return Receipt will show to whom the article was delivered and the date delivered.</li> </ul>		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.	
3. Article Addressed to: <i>Janice Taylor</i> <i>Tampa Electric Co</i> <i>P O Box 111</i> <i>Tampa, FL 33601-0111</i>		4a. Article Number <i>2 127 633 172</i>	
		4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
		7. Date of Delivery <i>FEB 26 1996</i>	
5. Signature (Addressee)		8. Addressee's Address (Only if requested and fee is paid)	
6. Signature (Agent) <i>[Signature]</i>			

Thank you for using Return Receipt Service.

Z 127 633 172



**Receipt for Certified Mail**  
 No Insurance Coverage Provided  
 Do not use for International Mail  
 (See Reverse)

Recipient Name <i>Janice Taylor</i>	
Street and No. <i>TEC</i>	
P.O., State and Zip Code <i>Tampa, FL</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date <i>2-23-96</i>	
<i>A0 29-179911</i>	

PS Form 3800, March 1993

I N T E R O F F I C E M E M O R A N D U M

**Date:** 23-Feb-1996 05:56pm EST  
**From:** Alvaro Linero TAL  
LINERO\_A  
**Dept:** Air Resources Management  
**Tel No:** 904/921-9532  
**SUNCOM:** 291-9532

**TO:** John Reynolds TAL ( REYNOLDS\_J )  
**TO:** Clair Fancy TAL ( FANCY\_C )  
**CC:** Janeth Campbell TAL ( CAMPBELL\_J )  
**CC:** Elizabeth Deken TPA ( DEKEN\_E @ A1 @ EPIC66 )  
**CC:** Gerald Kissel TPA ( KISSEL\_G @ A1 @ TPA1 )

**Subject:** TECO Big Bend 3, Petcoke Burn

Hey folks. Janice Taylor called me to say (essentially) that she did not need the specific authorization letter that I sent her in order to start burning petcoke on Unit 3.

Based on our letter of January 11 to Janice which accompanied the "Intent to Authorize Test," Janice believes we essentially told TECO that they could conduct the test after publishing the notice. No conditions were placed on the notice except that we would "consider any comments within 14 days."

She is only partly right because the notice had standard language which says that the "Department's final action may be different, etc." However the only basis for a different action would have been the comments that we got (possibly) after the notice period. She and I talked Friday afternoon and we did not completely agree on the matter.

The important thing, is that they will scrub Unit 3 gases through the Unit 4 scrubber whenever they burn petcoke. This looks favorable for the environment and has some of the features of a pollution control project. We had already allowed them to hook the two units but did not have an enforceable requirement to scrub Unit 3 gases at all. Therefore I recommend encouraging them to carry on with the test, which they feel they can only conduct during the window when Big Bend 4 is down for maintenance. I understand they gave us advance notice that they were going to conduct the baseline test. They have advised us that they will actually begin petcoke firing on Sunday, February 25.

Ultimately they can compare past (non-scrubbed) operation with future scrubbed operation so (except perhaps for CO) I expect to see beneficial results and no PSD concerns. If we feel that they will not conduct enough runs for proper statistical comparisons (with sufficient level of confidence), we can always require future annual reporting to demonstrate they did not trigger PSD in accordance with the definition of present and future "actual representative annual emissions."

Anyway, sorry for any misunderstandings. I'm sure I was responsible for most of them.



March 11, 1996

Mr. A.A. Linero, P.E., Administrator  
New Source Review Section  
Florida Department of Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Mr. Jerry Campbell, P.E.  
Air Engineering Assistant Director  
Environmental Protection Commission  
of Hillsborough County  
1900 Ninth Avenue  
Tampa, Florida 33605

**Re: Tampa Electric Company  
Big Bend Unit 3  
Petroleum Coke Test Burn  
Operating Permit No. AO29-179911**

Gentlemen:

For your information, Tampa Electric Company completed the last performance emissions testing for the coal/petroleum coke fuel blend on March 1, 1996. All emissions testing for both the baseline and fuel blend scenarios are now complete.

Please feel free to call me at (813) 228-4839 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Janice K. Taylor".

Janice K. Taylor  
Senior Engineer  
Environmental Planning

EPsmUKT742

**RECEIVED**

**MAR 14 1996**

**BUREAU OF  
AIR REGULATION**

COMMISSION

DOTTIE BERGER  
PHYLLIS BUSANSKY  
JOE CHILLURA  
CHRIS HART  
JIM NORMAN  
ED TURANCHIK  
SANDRA WILSON

EXECUTIVE DIRECTOR

ROGER P. STEWART



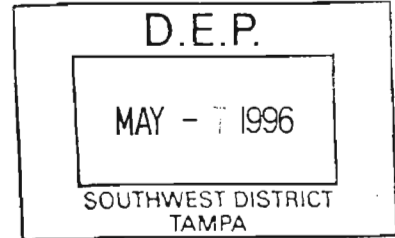
ADMINISTRATIVE OFFICES, LEGAL &  
WATER MANAGEMENT DIVISION  
1900 - 9TH AVENUE  
TAMPA, FLORIDA 33605  
TELEPHONE (813) 272-5960  
FAX (813) 272-5157

AIR MANAGEMENT DIVISION  
TELEPHONE (813) 272-5530

WASTE MANAGEMENT DIVISION  
TELEPHONE (813) 272-5788

WETLANDS MANAGEMENT DIVISION  
TELEPHONE (813) 272-7104

M E M O R A N D U M



DATE: May 2, 1996

TO: Jerry Kissel, FDEP

FROM: *RK* Rick Kirby

THRU: Jerry Campbell *JC*

SUBJECT: Tampa Electric Company (TECO) Permits

The citizens of Apollo Beach, Hillsborough County have expressed an interest in permits issued to TECO. The community is fairly close to the Big Bend Plant and they are interested in activities at the Gannon Station.

Please copy: William H. Adam, President  
Apollo Beach Civic Association  
6422 Lake Sunrise Drive  
Apollo Beach, FL 33572

on all draft "Intent to Issue" documents for these projects. I would appreciate it if you could pass this up the line to the appropriate permit writers at Tallahassee FDEP.

bm

*cc: A. LINERO 5/20/96*  
*LR*

*CC: J. Reynolds*  
*S. Airf*

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MAY 24 1996

BUREAU OF  
AIR REGULATION





**RECEIVED**

DEC 15 1997

BUREAU OF  
AIR REGULATION

December 11, 1997

Mr. Al Linero  
Florida Department of Environmental Protection (FDEP)  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

**Via FedEx**  
**Airbill No. 800926221066**

Mr. Jerry Campbell  
Environmental Protection Commission  
of Hillsborough County (EPCHC)  
1410 N. 21<sup>st</sup> Street  
Tampa, Florida 33605

**Via FedEx**  
**Airbill No. 800926221077**

**RE: Tampa Electric Company**  
**Big Bend Unit #3**  
**Petroleum Coke**  
**Permit #A029-179911(B)**  
**Annual Report (1 of 5)**

Gentlemen:

Tampa Electric Company began to burn petroleum coke in our Big Bend Unit #3 in October 1996. Per Specific Condition #23 of the above referenced permit, the first of five annual emissions reports related to the burning of petroleum coke is due to be submitted this year. SO<sub>2</sub> and NO<sub>x</sub> emission values listed in the report are based on actual CEM data, while PM emissions values are based on the results of the two most recent stack tests. In the QA/QC review of the report, it was found that 100% coal was burned in Big Bend #3 during the most recent stack test conducted on May 29, 1997, instead of a 80% coal, 20% petroleum coke blend.

When this apparent oversight was discovered, I called Mr. Sterlin Woodard of EPCHC to discuss the matter. Based on our conversation of December 2, 1997, Tampa Electric Company agreed to the following: 1) complete and submit the annual emissions report based on the data available (PM

TAMPA ELECTRIC COMPANY

P.O. BOX 111

TAMPA, FL 33601-0111

HILLSBOROUGH COUNTY 223-0800

OUTSIDE OF HILLSBOROUGH COUNTY 1-888-223-0800

[HTTP://WWW.TECOENERGY.COM](http://www.tecoenergy.com)

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Mr. Al Linero  
Mr. Jerry Campbell  
December 11, 1997  
Page 2 of 2

emissions were not considered to be a significant concern based on the fact that petroleum coke only contains approximately 0.35% ash, while coal contains approximately 9% ash); 2) conduct another PM stack test on Big Bend Unit #3 as soon as reasonably possible; and 3) notify EPCHC of the test date for Unit #3 as soon as that date is determined. Tampa Electric will make every effort to retest the unit prior to the end of the year; however, this may be difficult to achieve given the need to perform stack tests this month on Big Bend Units 1 and 2, as well as install the gondola system required to test Unit #3.

Given this, we have enclosed the annual emissions report for Big Bend Unit #3. Should you have any questions regarding this matter, please contact Jamie Woodlee or me at 813/641-5036.

Sincerely,

A handwritten signature in cursive script that reads "Gregory M. Nelson". The signature is written in black ink and includes a long horizontal flourish extending to the right.

Gregory M. Nelson, P.E.  
Administrator - Air Programs  
Environmental Planning

Enclosure

EPgmJTW813

c: Sterlin Woodard, EPCHC (enc.)

**TAMPA ELECTRIC COMPANY  
BIG BEND UNIT 3  
PETROLEUM COKE FUEL BLEND  
ANNUAL EMISSIONS REPORT**

**OCTOBER 1, 1996  
THROUGH  
SEPTEMBER 30, 1997**

**BIG BEND UNIT #3  
ACTUAL OPERATING CONDITIONS  
COMPARISON TO  
HISTORICAL ACTUAL EMISSIONS**

<b>POLLUTANT</b>	<b>ANNUAL EMISSION (TPY) 10/1/96 - 9/30/97</b>	<b>vs</b>	<b>1994 &amp; 1995 ANNUAL EMISSION (TPY)</b>
SO2	16075		36468
NOx	8030		8737
PM	668		685

g:\repts\b39697

**BIG BEND UNIT #3  
 PETROLEUM COKE FUEL BLEND  
 SO2 EMISSIONS  
 10/1/96- 9/30/97**

<b>DATE</b>	<b>SCRUBBER EFFICIENCY</b>	<b>GOAL CONSUMED TONS</b>	<b>SULFUR CONTENT %</b>	<b>SO2 REMOVED TONS</b>	<b>SO2 EMITTED TONS</b>
OCT 96	77.80	125053	2.73	5046	1440
NOV 96	74.30	108590	2.45	3756	1299
DEC 96	90.20	98374	2.62	4417	480
JAN 97	63.30	114035	2.70	3703	2147
FEB 97	53.00	79473	2.55	2041	1810
MAR 97	41.30	96980	2.62	1994	2834
APR 97	77.39	118856	2.70	4719	1379
MAY 97	68.35	113997	2.60	3849	1782
JUN 97	78.25	103421	2.83	4351	1210
JUL 97	85.90	18835	2.84	873	143
AUG 97	74.03	75393	2.43	2577	904
SEP 97	87.76	105714	2.63	4636	647
<b>SO2 TONS EMITTED</b>					<b>16075</b>

**BIG BEND UNIT #3  
 PETROLEUM COKE FUEL BLEND  
 NO<sub>x</sub> EMISSIONS  
 10/1/96 - 9/30/97**

DATE	GROSS GENERATION MWHRS	GROSS HEAT RATE BTU/KWH	HEAT INPUT MMBTU	NO <sub>x</sub> EMISSIONS LBS/MMBTU	YTD EMISSIONS LBS/MMBTU	NO <sub>x</sub> EMISSIONS MONTHLY TONS	NO <sub>x</sub> EMISSIONS YTD TONS
Oct 96	302387	9460	2860581	0.609	0.609	871	871
Nov 96	257385	9545	2456740	0.600	0.605	737	1608
Dec 96	240320	9443	2269342	0.641	0.616	727	2335
Jan 97	283579	9340	2648628	0.622	0.617	824	3159
Feb 97	199185	9480	1888274	0.626	0.619	591	3750
Mar 97	237755	9331	2218492	0.603	0.616	669	4419
Apr 97	292884	9375	2745788	0.615	0.616	844	5263
May 97	276613	9506	2629483	0.593	0.613	780	6043
Jun 97	242950	9718	2360988	0.559	0.607	660	6703
Jul 97	45298	9582	434045	0.554	0.606	120	6823
Aug 97	175091	10003	1751435	0.552	0.602	483	7307
Sep 97	249002	9836	2449184	0.591	0.601	724	8030
<b>TOTAL</b>			<b>26712980</b>				

**BIG BEND UNIT #3  
PETROLEUM COKE FUEL BLEND  
PM EMISSIONS  
10/1/96 - 9/30/97**

FROM ANNUAL COMPLIANCE TEST PM = .05 LB/MMBTU

FROM GENERATION SUMMARY MONTHLY HEAT INPUT 26712980 MMBTU

ANNUAL PM EMISSIONS (TPY) = (0.05 LB/MMBTU)(26712980 HEAT INPUT MMBTU/YR)(TN/2000LB)

TPY=

Note: 1996 Stack test result was used in the calculation. The 1997 petroleum coke stack test is scheduled for December 1997.

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JAN 27 2000

BUREAU OF AIR REGULATION



TAMPA ELECTRIC

January 21, 2000

Mr. Clair Fancy  
Florida Department of Environmental Protection  
2600 Blair Stone Road  
Twin Towers Office Building  
Tallahassee, Florida 32399-2400

Via FedEx  
Airbill No. 7910 3522 6048

**Re: Revision of Big Bend Unit 3 AO29-179911 Specific Condition 21  
Revision of Big Bend Unit 4 PSD-FL-040 Specific Condition 1.A.**

Dear Mr. Fancy:

On January 1, 2000, the new scrubber serving Big Bend Units 1 and 2 became commercially operational and, as a result, TEC was given the option of blending petcoke with coal for use as a fuel. The construction permit associated with this project does not identify a percent sulfur limit in the petcoke because TEC will be using CEMs as the method of compliance with all applicable standards. This allows TEC to receive credit for scrubbing the boiler emissions and ensures that the SO<sub>2</sub> emissions reported are what the atmosphere actually 'sees' rather than calculating emissions based on the percent sulfur of the fuel fed to the boiler.

Unfortunately, when Big Bend Unit 3 was originally permitted, fuel sampling and analysis was the method of compliance with the sulfur dioxide standard. This method does not allow TEC to receive credit for scrubbing the boiler flue gases and the SO<sub>2</sub> emissions reported may not be what is actually emitted to the atmosphere. The only way to determine the quantity of emissions actually released to the atmosphere is to measure them as close to the emission point as possible. During the Title V permitting process, TEC proposed using CEMs as the method of compliance for all applicable standards; an idea that the Department is in favor of. This would allow for the accurate measurement of emissions released to the atmosphere independent of the fuel analysis. Therefore, to remain consistent with the Big Bend Units 1 and 2 FGD construction permit, TEC requests that the Department remove all existing restrictions on the sulfur content of petcoke fed to the Unit 3 boiler.

Finally, Big Bend Unit 4 SO<sub>2</sub> emissions are limited to 0.82 lb SO<sub>2</sub> /MMBtu heat input. This limit is measured by a CEM in the stack and must be complied with regardless of the fuel sulfur content. Again, this is what the atmosphere actually 'sees', not what is fed to the boiler. Consequently, TEC requests that the Department remove the limit on the sulfur content of petcoke fed to the Unit 4 boiler.

In addition to the sulfur content of petcoke, TEC requests that all limits on the vanadium content of mineral ash be removed from the Big Bend Unit 3 Operating Permit and the Big Bend Unit 4 PSD permit. Since there is currently no applicable standard by which to quantify vanadium impacts on the environment, TEC does not feel that it should be subject to a vanadium limit on mineral ash produced during combustion. All of the above referenced changes can be addressed through one straightforward modification to each permit.

TAMPA ELECTRIC COMPANY  
P. O. BOX 111 TAMPA, FL 33601-0111

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[HTTP://WWW.TAMPAELECTRIC.COM](http://www.tampaelectric.com)

(813) 228-4111

CUSTOMER SERVICE:  
HILLSBOROUGH COUNTY (813) 223-0800  
OUTSIDE HILLSBOROUGH COUNTY 1 (888) 223-0800



Mr. Clair Fancy  
January 21, 2000  
Page 2 of 2

TEC suggests that Specific Condition 21 of the Big Bend Unit 3 Operating Permit be simplified to:

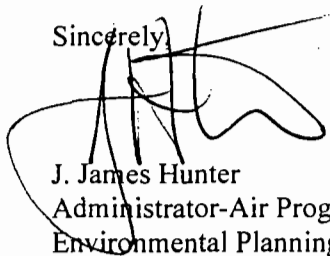
21. *Fuels fired shall consist of coal or a coal/petroleum coke blend containing a maximum of 20.0% petroleum coke by weight. ~~The sulfur content of the petroleum coke shall not exceed 6.0 percent by weight (dry basis). Vanadium content of the mineral ash from the petroleum coke fired shall not exceed 35.0 percent by weight (ignited basis).~~*

Similarly, TEC suggests that Specific Condition 1.A. of the Big Bend Unit 4 PSD permit be simplified to

- 1.A. *Fuels fired shall consist of coal or a coal/petroleum coke blend containing a maximum of 20.0% petroleum coke by weight. ~~The sulfur content of the petroleum coke shall not exceed 6.0 percent by weight (dry basis). Vanadium content of the mineral ash from the petroleum coke fired shall not exceed 35.0 percent by weight (ignited basis).~~*

TEC appreciates the cooperation of the Department in this matter and should you have any questions, please feel free to contact Shannon Todd or me at (813) 641-5033.

Sincerely,



J. James Hunter  
Administrator-Air Programs  
Environmental Planning

EP\gm\SKT138

- c: Mr. J. Campbell, EPCHC  
Mr. A. Linero, FDEP  
Mr. J. Kissel, FDEP SW  
Mr. H. Oven, FDEP  
Ms. C. Phillips, FDEP  
Mr. S. Woodard, EPCHC