



TAMPA ELECTRIC

May 6, 2004

RECEIVED

MAY 07 2004

BUREAU OF AIR REGULATION

Ms. Cindy Phillips, P.E.  
Florida Department of Environmental Protection  
Division of Air Resource Management  
111 South Magnolia, Suite 4  
Tallahassee, FL 32301

Via FedEx  
Airbill No. 7912 3336 4802

**Re: Tampa Electric Company  
Big Bend Station  
Permit No. 0570039-010-AV  
Request for Additional Information for Air Construction Permit  
NO<sub>x</sub> Pollution Control Projects**

Dear Ms. Phillips:

Tampa Electric Company (TEC) has received your letter dated January 29, 2004 requesting additional information with regard to the air construction permit application for the Consent Decree NO<sub>x</sub> pollution control projects. This correspondence is intended to provide a response to each specific issue raised by the Department. For your convenience, TEC has restated each point and provided a response below each specific issue.

FDEP Comment 1:

Though Box 10 of the Facility Regulatory Classifications list on page 9 of the application was not checked, Big Bend is subject to 40 CFR Part 63 Subpart II – Shipbuilding and Ship Repair (Surface Coating). Please submit a corrected page 10.

TEC Comment 1:

Attachment A contains a corrected page 10.

FDEP Comment 2:

The application states that addition of the NO<sub>x</sub> controls does not change previously submitted Operations and Maintenance plan for boiler Units 1-4. Please verify that no additions need to be made to the Operations and Maintenance plan currently on file. The date the previous Operation and Maintenance was submitted to the Department was not included in this application but it was more than five years ago.

TEC Comment 2:

TEC is in the process of updating the previously submitted Operations and Maintenance Plan. However, the addition of these NO<sub>x</sub> control projects does not change the previously submitted nor does it change the updated version of the Operations and Maintenance plan for Big Bend Station Units 1 through 4.

**FDEP Comment 3:**

Page 33 of the application erroneously states that the maximum heat input rate for boiler Unit 2 is 4037 million Btu/hr. The maximum permitted heat input rate for Unit 2 is 3996 million Btu/hr. Please submit a corrected page 33.

**TEC Comment 3:**

Attachment A contains a corrected page 33.

**FDEP Comment 4:**

Page 55 of the application erroneously states that, for boiler Unit 3, NO<sub>x</sub> is a pollutant that is not emissions-limited nor subject to any work practices standard. In fact, Unit No. 3 shall not emit more than 0.70 of a pound of nitrogen oxides (expressed as NO<sub>2</sub>) per million BTU heat input based upon a 30-day rolling average. Please submit a corrected page 55.

**TEC Comment 4:**

Attachment A contains a corrected page 55.

**FDEP Comment 5:**

Pages 17, 34, 51, and 68 of the application, reference points on a Plot Plan or Flow Diagram. However, neither a Plot Plan nor a Flow Diagram was submitted with the application. Please submit.

**TEC Comment 5:**

Attachment B contains the Plot Plan or Flow Diagram which incorporates the reference points listed on pages 17, 34, 51, and 68.

**FDEP Comment 6:**

For boiler Unit 4, please submit the installation date of the Separate Overfire Air (SOFA) and the actual or projected initial startup date.

**TEC Comment 6:**

The Separated Over-fired Air (SOFA) system was installed on Big Bend Station Unit 4 during its outage in November 2003. The actual startup date was December 10, 2003.

**FDEP Comment 7:**

It is understood that the low-NO<sub>x</sub> burners have already been installed. Please submit the date that the installation of the low-NO<sub>x</sub> burners was completed for each of the four boilers and the respective start-up date after installation. What percent reduction in NO<sub>x</sub> has it achieved?

**TEC Comment 7:**

Table 1 below lists the dates the low NO<sub>x</sub> burners (LNB) were installed on each of the Big Bend Station Units.

<b>Units</b>	<b>Low-NO<sub>x</sub> Burner Installation Date</b>
1	April 2001
2	October 2002
3	March 2002
4	May 2001

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At this time, TEC is analyzing the NO<sub>x</sub> emissions data to determine the percent reduction that Big Bend Station has achieved. As stipulated in amended Paragraph 35 of the Consent Decree, TEC will submit a report to the Environmental Protection Agency (EPA) detailing the performance of each technology in reducing NO<sub>x</sub> emissions from each boiler on or before July 1, 2004.

**FDEP Comment 8:**

For pages 22, 39, 56, and 73 of the application, "F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION," please complete these pages for NO<sub>x</sub> and any other pollutant that may be impacted by the addition of the NO<sub>x</sub> controls.

**TEC Comment 8:**

Attachment A contains the corrected pages 22, 39, 56 and 73 of the application "F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION."

**FDEP Comment 9:**

The diagram of the "Typical Windbox Configuration" which is included in Attachment A has several illegible identifying labels. Please resubmit a clarified diagram.

**TEC Comment 9:**

Attachment C contains a diagram of the "Typical Windbox Configuration" with legible labels.

**FDEP Comment 10:**

What parameters does the boiler Unit 2 neural network system monitor? Please submit the date of installation of the system was completed. Has the system been optimized yet? What percent reduction in NO<sub>x</sub> has it achieved?

**TEC Comment 10:**

The neural network system that was installed on Unit 2 monitors the following parameters: excess O<sub>2</sub> bias, force draft fan balance bias, mill outlet temperature bias, rating damper bias, and mill bypass damper bias. The installation date of the system was March 2001. TEC is continuing to optimize the neural network system on Big Bend Unit 2. At this time, TEC is analyzing the NO<sub>x</sub> emissions data to determine the percent reduction that Big Bend Station has achieved. As stipulated in amended Paragraph 35 of the Consent Decree, TEC will submit a report to the EPA detailing the performance of each technology in reducing NO<sub>x</sub> emissions from each boiler on or before July 1, 2004.

**FDEP Comment 11:**

For which boiler units has coal and air flow monitoring been installed? Please submit the dates the installation of the monitoring was completed and the start-up dates after installation. What percent reduction in NO<sub>x</sub> has monitoring achieved?

**TEC Comment 11:**

TEC installed the coal and air flow monitoring equipment on Big Bend Unit 1 in May 2002. The startup date for the system was June 2002. TEC installed the coal and air flow monitoring equipment on Big Bend Unit 2 in February 2004. The startup date for the system was March 2004. At this time, TEC is analyzing the NO<sub>x</sub> emissions data to determine the percent reduction that Big Bend Station has achieved. As stipulated in amended Paragraph 35 of the Consent Decree, TEC will submit a report to the EPA detailing the performance of each technology in reducing NO<sub>x</sub> emissions from each boiler on or before July 1, 2004.

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In addition, provided in Attachment D of this document is the Professional Engineer's Certification and the Responsible Official's Certification for the NO<sub>x</sub> pollution control projects.

As a reminder, TEC is in the process of analyzing whether or not to continue firing coal, repower or shutdown. Should Big Bend Station remain a coal burning facility, TEC has agreed to submit a non-PSD air construction permit application for the addition of an SCR to allow the Department to review the project details. In addition, the Department had indicated that the non-PSD air construction permitting process will not lead to new emission limitations, permit conditions or delay any deadlines stipulated in the Consent Decree. The same holds true for submittals of non-PSD air construction permit applications for the LNB and the SOFA NO<sub>x</sub> control projects.

TEC understands that with the submission of this additional information, the Department will continue processing our air construction permit application for the Consent Decree NO<sub>x</sub> pollution control projects at the Big Bend Station. If you have any further questions regarding this matter, please contact me or Shelly Castro at (813) 228-4408.

Sincerely,



Laura R. Crouch  
Manager- Air Programs  
Environmental, Health & Safety

EA/bmr/SSC192

Enclosures

c/enc: Mr. Scott Sheplak - FDEP  
Mr. Jerry Kissel - FDEP SWD  
Ms. Alice Harman - EPCHC

# Attachment A

**FACILITY INFORMATION**

Revised—May 2004

**Facility Regulatory Classifications**

**Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a “major source” and a “synthetic minor source.”**

1. <input type="checkbox"/> Small Business Stationary Source	<input type="checkbox"/> Unknown
2. <input type="checkbox"/> Synthetic Non-Title V Source	
3. <input checked="" type="checkbox"/> Title V Source	
4. <input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. <input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. <input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)	
7. <input type="checkbox"/> Synthetic Minor Source of HAPs	
8. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. <input type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. <input type="checkbox"/> Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment:	
<p><b>Facility applicable regulations previously submitted with the initial Title V Permit application; reference Big Bend Station Title V Operating Permit Application, Volume II, Attachment A.</b></p>	

**FACILITY INFORMATION**

**List of Pollutants Emitted by Facility**

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
NOX	A	N
SO2	A	Y
CO	A	N
PM10	A	Y
PM	A	Y
PM/PM10	A	Y
SAM	A	N
VOC	A	N
PB	B	N
H106	A	N
H107	A	N
H133	A	N
HAPS	A	N

**EMISSIONS UNIT INFORMATION**

Section [1] of [4]

**E. EMISSIONS UNIT POLLUTANTS**

**List of Pollutants Emitted by Emissions Unit**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - NOX	205 (Low NOx Burners)		NS
2 - CO			NS
3 - PM	010 (ESP)	042 (FGD)	EL
4 - PM10	010 (ESP)	042 (FGD)	NS
5 - SO2	042 (FGD)		EL
6 - VOC			NS
7 - H106 (HCl)			NS
8 - H107 (HF)			NS
9 - H133 (Ni)			NS
10 - HAPS			NS



EMISSIONS UNIT INFORMATION  
Section [1] of [4]

POLLUTANT DETAIL INFORMATION  
Page [1] of [2]

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: <b>NO<sub>x</sub></b>	2. Total Percent Efficiency of Control:
3. Potential Emissions: <b>5,688.5 lb/hour 24,915.6 tons/year</b>	4. Synthetically Limited?– <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: <b>31 lb/ton</b> Reference: <b>AP-42, Table 1.1-3</b>	7. Emissions Method Code: <b>3</b>
8. Calculation of Emissions:  $NO_x = (183.5 \text{ ton/hr}) (31 \text{ lb/ton})$ $= 5,688.5 \text{ lb/hr}$  $NO_x = (5,688.5 \text{ lb/hr}) (8,760 \text{ hr/yr}) (\text{ton}/2,000 \text{ lb})$ $= 24,915.6 \text{ ton/yr}$	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:  <b>TEC is not requesting any revisions to currently authorized emission limits as specified in FINAL Title V Permit No. 0570039-010-AV. The information requested by Section F1 regarding allowable emissions for Unit No. 1 can be found in FINAL Title V Permit No. 0570039-010-AV.</b>	

**B. EMISSIONS UNIT CAPACITY INFORMATION**

(Optional for unregulated emissions units.)

**Emissions Unit Operating Capacity and Schedule**

1. Maximum Process or Throughput Rate:		
2. Maximum Production Rate: <b>445 MW</b>		
3. Maximum Heat Input Rate: <del>4,037</del> <b>3,996 MMBtu/hr</b>		
4. Maximum Incineration Rate:   pounds/hr tons/day		
5. Requested Maximum Operating Schedule:		
<b>24 hours/day</b>		<b>7 days/week</b>
<b>52 weeks/year</b>		<b>8,760 hours/year</b>
6. Operating Capacity/Schedule Comment:		

**EMISSIONS UNIT INFORMATION**

Section [2] of [4]

**C. EMISSION POINT (STACK/VENT) INFORMATION**  
(Optional for unregulated emissions units.)

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: <b>CS-001, CS-0W1</b>		2. Emission Point Type Code: <b>2</b>	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:  <b>N/A</b>			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:  <b>001 and 002</b>			
5. Discharge Type Code: <b>V</b>	6. Stack Height: <b>490 feet</b>		7. Exit Diameter: <b>CS-001 24 feet</b> <b>CS-0W1 29 feet</b>
8. Exit Temperature: <b>CS-001 294 °F</b> <b>CS-0W1 127 °F</b>	9. Actual Volumetric Flow Rate: <b>CS-001 3,146,368 acfm</b> <b>CS-0W1 2,377,871 acfm</b>		10. Water Vapor: <b>%</b>
11. Maximum Dry Standard Flow Rate: <b>dscfm</b>		12. Nonstack Emission Point Height: <b>feet</b>	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment:  <b>Actual flow rates (Field 9) are for both Units 1 and 2 combined. Whenever either unit is fired with petroleum coke, its flue gases are routed from its ESP to the FGD system and then to stack CS-0W1. If petcoke is not fired, the flue gases may bypass the FGD system and stack CS-0W1, and be routed directly from the ESP to stack CS-001.</b>			

EMISSIONS UNIT INFORMATION  
Section [2] of [4]

POLLUTANT DETAIL INFORMATION  
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**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**  
(Optional for unregulated emissions units.)

**Potential/Estimated Fugitive Emissions**

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: <b>NO<sub>x</sub></b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>5,629.6 lb/hour 24,657.6 tons/year</b>		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: <b>31 lb/ton</b> Reference: <b>AP-42, Table 1.1-3</b>		7. Emissions Method Code: <b>3</b>	
8. Calculation of Emissions:  <b>NO<sub>x</sub> = (181.6 ton/hr) (31 lb/ton)</b> <b>= 5,629.6 lb/hr</b>  <b>NO<sub>x</sub> = (5,629.6 lb/hr) (8,760 hr/yr) (ton/2,000 lb)</b> <b>= 24,657.6 ton/yr</b>			
9. Pollutant Potential/Estimated Fugitive Emissions Comment: <b>TEC is not requesting any revisions to currently authorized emission limits as specified in FINAL Title V Permit No. 0570039-010-AV. The information requested by Section F1 regarding allowable emissions for Unit No. 2 can be found in FINAL Title V Permit No. 0570039-010-AV.</b>			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions \_\_\_ of \_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour                      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): <b>TEC is not requesting any revisions to currently authorized emission limits as specified in FINAL Title V Permit No. 0570039-010-AV. The information requested by Section F2 regarding allowable emissions for Unit No. 2 can be found in FINAL Title V Permit No. 0570039-010-AV.</b>	

Allowable Emissions Allowable Emissions \_\_\_ of \_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour                      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions \_\_\_ of \_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour                      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**EMISSIONS UNIT INFORMATION**

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**E. EMISSIONS UNIT POLLUTANTS**

**List of Pollutants Emitted by Emissions Unit**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - NOX	205 (Low NOx Burners)		<del>NS</del> EL
2 - CO			NS
3 - PM	010 (ESP)	042 (FGD)	EL
4 - PM10	010 (ESP)	042 (FGD)	NS
5 - SO2	042 (FGD)		EL
6 - VOC			NS
7 - H106 (HCl)			NS
8 - H107 (HF)			NS
9 - H133 (Ni)			NS
10 - HAPS			NS

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: <b>NO<sub>x</sub></b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>2,880.5 lb/hour 12,616.6 tons/year</b>		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: <b>0.70 lb/MMBtu</b> Reference: <b>Title V Condition A.10</b>		7. Emissions Method Code: <b>0</b>	
8. Calculation of Emissions:  <b>NO<sub>x</sub> = (4,115 MMBtu/hr) (0.7 lb/MMBtu)</b> <b>= 2,880.5 lb/hr</b>  <b>NO<sub>x</sub> = (2,880.5 lb/hr) (8,760 hr/yr) (ton/2,000 lb)</b> <b>= 12,616.6 ton/yr</b>			
9. Pollutant Potential/Estimated Fugitive Emissions Comment:  <b>TEC is not requesting any revisions to currently authorized emission limits as specified in FINAL Title V Permit No. 0570039-010-AV. The information requested by Section F1 regarding allowable emissions for Unit No. 3 can be found in FINAL Title V Permit No. 0570039-010-AV.</b>			

EMISSIONS UNIT INFORMATION  
 Section [4] of [4]

POLLUTANT DETAIL INFORMATION  
 Page [1] of [2]

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
 POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

**Potential/Estimated Fugitive Emissions**

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: <b>NO<sub>x</sub></b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>2,598.0 lb/hour 11,379.2 tons/year</b>		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: <b>0.60 lb/MMBtu</b> Reference: <b>Title V Condition B.9</b>		7. Emissions Method Code: <b>0</b>	
8. Calculation of Emissions:  $NO_x = (4,330 \text{ MMBtu/hr}) (0.60 \text{ lb/MMBtu})$ $= 2,598.0 \text{ lb/hr}$  $NO_x = (2,598.0 \text{ lb/hr}) (8,760 \text{ hr/yr}) (\text{ton}/2,000 \text{ lb})$ $= 11,379.2 \text{ ton/yr}$			
9. Pollutant Potential/Estimated Fugitive Emissions Comment: <b>TEC is not requesting any revisions to currently authorized emission limits as specified in FINAL Title V Permit No. 0570039-010-AV. The information requested by Section F1 regarding allowable emissions for Unit No. 4 can be found in FINAL Title V Permit No. 0570039-010-AV.</b>			



**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour                      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): <b>TEC is not requesting any revisions to currently authorized emission limits as specified in FINAL Title V Permit No. 0570039-010-AV. The information requested by Section F2 regarding allowable emissions for Unit No. 4 can be found in FINAL Title V Permit No. 0570039-010-AV.</b>	

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour                      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour                      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

## Attachment B

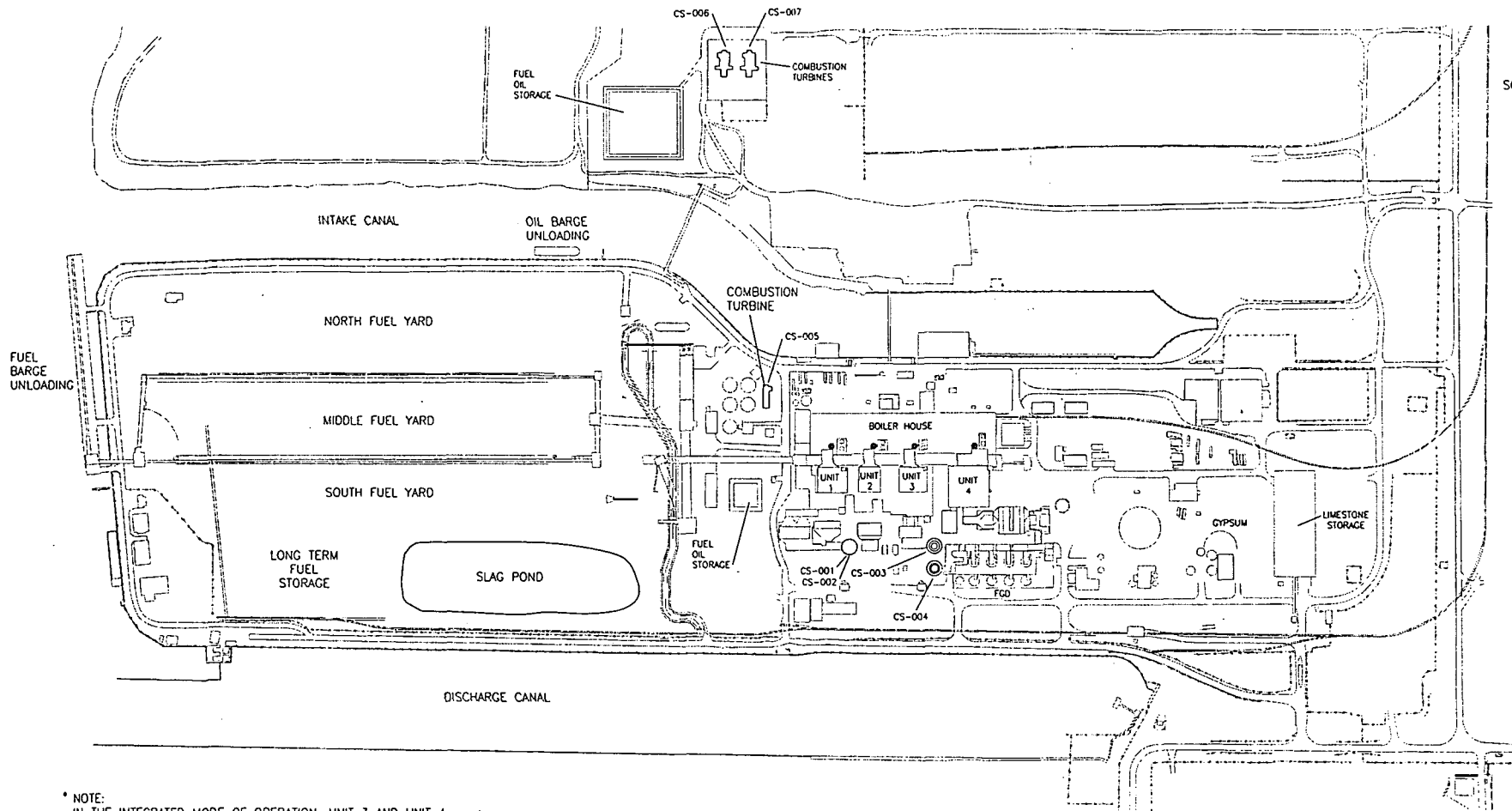


NO SCALE

SCALE: 1"=400' (APPROX.)

LEGEND

CS-007 EMISSION POINT



NOTE:  
 IN THE INTEGRATED MODE OF OPERATION, UNIT 3 AND UNIT 4  
 COMBINE AND EXHAUST THROUGH STACKS CS-003 AND CS-004.

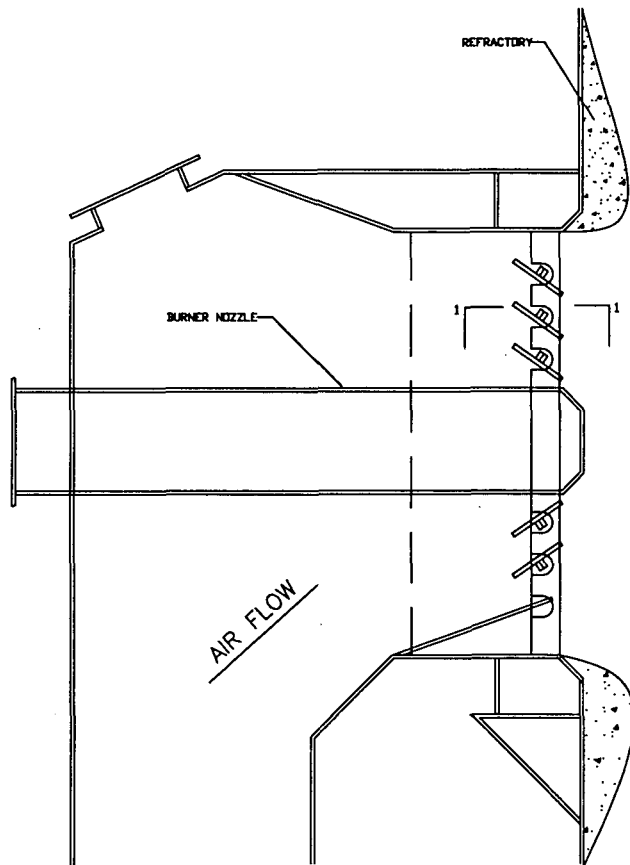
DOCUMENT I.D.2.C.

COMBUSTION EMISSION SOURCES

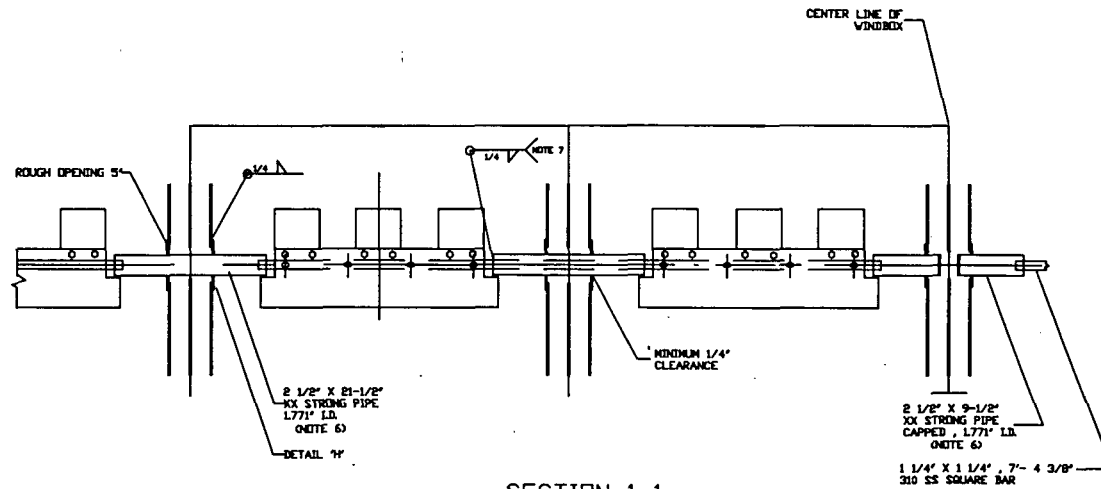
Source: ECT, 1996.



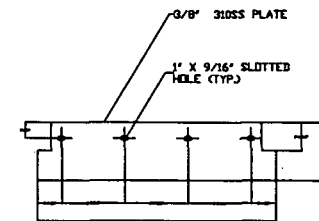
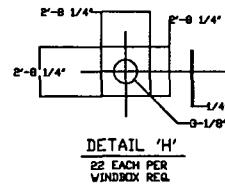
# Attachment C



**WINDBOX  
CROSS SECTION**  
VIEW LOOKING EAST  
(REF. SECT. A-A, 11500-FM-6XA)  
NTS



**SECTION 1-1**  
ALL EXCEPT UPPER DIRECTIONAL VANE

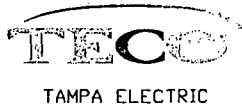


**DETAIL 'I'**

**NOTES:**

- 1). REFERENCE MATERIAL LIST ON DRAWING 11500-FM-6XA
- 2). PIPE CONNECTORS TO BE A106 GRADE B - XX STRONG
- 3). ALL WELDS TO BE MINIMUM 3/16" UNLESS NOTED.
- 4). WELDING ELECTRODE TO BE XX7018
- 5). CONNECTION DETAIL AT END OF WINDBOX TO BE PER DRAWING 11500-FM-6XA DETAIL 'B'
- 6). PIPE MAY NEED TO BE REAMED FOR CLEARANCE.
- 7). WELDING ELECTRODE TO BE 309 SS

DWG.NO.11500-YSK-FM-6XA-20-0



**BIG BEND STATION  
NO.1 UNIT WINDBOX MODIFICATIONS  
GENERAL ARRANGEMENT**

DESIGNED BY WWS	CHECKED BY	APPROVED BY
DATE 8/15/98	DWG. NO.	
FILE NAME 6: WINDBOX1	DWG. NO.	
0	FOR CONSTRUCTION	

# Attachment D

**TAMPA ELECTRIC COMPANY  
BIG BEND STATION  
APPLICATION NO. 0570039-014-AC  
NO<sub>x</sub> POLLUTION CONTROL PROJECTS**


**Professional Engineer Certification**

Professional Engineer Statement:

*I, the undersigned, hereby certify, except as particularly noted herein\*, that:*

*(1) To the best of my knowledge, the information presented in the Tampa Electric Company (TEC) response to the Department's Request for Additional Information (RAI) dated January 29, 2004 concerning Application No. 0570039-014-AC (NO<sub>x</sub> Pollution Control Projects) are true, accurate, and complete based on my review of material provided by TEC engineering and environmental staff; and*

*(2) To the best of my knowledge, any emission estimates reported or relied on in this submittal are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of air pollutants not regulated for an emissions unit, based solely upon the materials, information and calculations provided with this certification.*

  
\_\_\_\_\_  
Signature

5/4/04  
\_\_\_\_\_  
Date

(seal)

\* Certification is applicable to the Tampa Electric Company (TEC) response to the Department's Request for Additional Information (RAI) dated January 29, 2004 concerning Application No. 0570039-014-AC (NO<sub>x</sub> Pollution Control Projects).

I, the undersigned, am the responsible official as defined in Chapter 62-213, F.A.C., of the Title V source for which this document is being submitted. I hereby certify, based on the information and belief formed after reasonable inquiry, that the statements made and data contained in this document are true, accurate, and complete.

Karen A. Sheffield \_\_\_\_\_ 4/06/04 \_\_\_\_\_  
Signature Date

Karen A. Sheffield \_\_\_\_\_ General Manager, Big Bend Station \_\_\_\_\_  
Name Title