Department of
Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit by:

Ms. Karen Sheffield
General Manager
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

Big Bend Station
Air Permit No. **0570039-024-AC**

Enclosed is Final Air Construction Permit No. 0570039-024-AC. The air construction permit authorizes the installation of selective catalytic reduction systems for nitrogen oxides control on the solid fuel-fired Steam Generator Units No. 1 and 2.

An electronic version of this document has been posted on the Division of Air Resource Management's world wide web site for the United States Environmental Protection Agency (U.S. EPA) Region 4 office's review. The web site address is:

http://www.dep.state.fl.us/air/eproducts/ards/default.asp

This permit is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes, by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

Trina L. Vielhauer, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this permit was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 3/30/06 to the person(s) listed:

Karen Sheffield*
U.S. EPA, Region 4
Alice Harmon, Hillsborough County
Shelly Castro, Tampa Electric Company
Thomas W. Davis, Environmental Consulting & Technology, Inc.

Clerk Stamp

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Mary F. Harry 3/30/06
(Clerk) (Date)

FINAL DETERMINATION

Tampa Electric Company
Big Bend Station

Air Construction Permit No. **0570039-024-AC**
Selective Catalytic Reduction

The Department distributed a public notice package on February 2, 2006, that included an Intent to Issue Air Construction Permit No. 0570039-024-AC to the Tampa Electric Company (TEC) for the Big Bend Station, located at Wyandotte Road, Apollo Beach, Hillsborough County. The air construction permit authorizes the applicant to install selective catalytic reduction systems for nitrogen oxides control on the solid fuel-fired Steam Generator Units No. 1 and 2.

The Public Notice of Intent to Issue was published in the Tampa Tribune on February 23, 2006.

COMMENTS/CHANGES

- Comments from the applicant on the draft air construction permit were received via e-mail. The comments were primarily minor language changes and clarifications. These minor changes and clarifications were adopted in the final air construction permit document.

- No other comments were received by the Department from the public, U.S.EPA, Hillsborough County, or the applicant.

CONCLUSION

The final action of the Department is to issue the permit with the minor changes as indicated above.

Department of Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

FINAL AIR CONSTRUCTION PERMIT NO. 0570039-024-AC

PERMITTEE

Tampa Electric Company (TEC)	File/Permit No.	**0570039-024-AC**
Big Bend Station	Facility ID:	0570039
Post Office Box 111	Project:	NO_X Reduction (SCR)
Tampa, Florida 33601-0111		Steam Generator Unit 1
		Steam Generator Unit 2
	SIC No.	4911
Authorized Representative:	Expires:	December 31, 2010
Karen Sheffield, General Manager	County	Hillsborough

PROJECT AND LOCATION

This is an Air Construction Permit for the installation of selective catalytic reduction systems for nitrogen oxides control on the solid fuel-fired Steam Generator Units No. 1 and 2. The reductions are part of an emissions reduction program required by a Consent Final Judgment with the Department and a Consent Decree with the United States Environmental Protection Agency. The air construction permit also establishes these specific projects as applicable Title V Operation Permit conditions.

The Tampa Electric Company (TEC) Big Bend Station is located at Wyandotte Road, Apollo Beach, Hillsborough County. UTM Coordinates are Zone 17, 361.9 km East and 3075.0 km North; Latitude: 27° 47' 36" North and Longitude: 82° 24' 11" West.

STATEMENT OF BASIS

This Air Construction Permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The above named permittee is authorized to install the SCR system at the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

THE ATTACHED APPENDIX IS MADE A PART OF THIS PERMIT:

Appendix GC Construction Permit General Conditions

Michael G. Cooke, Director
Division of Air Resource Management

MGC/TLV/SMS/tbc

FACILITY DESCRIPTION

This facility consists primarily of four existing fossil fuel steam generators (boilers) and three simple-cycle combustion turbines. Emissions from all steam generators are controlled by electrostatic precipitators (ESPs), and flue gas desulfurization (FGD) systems. There are ongoing nitrogen oxides (NO_X) control projects pursuant to a Consent Final Judgment (CFJ) between TEC and the Department and a Consent Decree (CD) between TEC and the United States Environmental Protection Agency (EPA).

EMISSIONS UNITS

This permit addresses the installation of an ammonia injection system and catalyst at the following Units:

Emission Unit No.	System	Emission Unit Description
001	Power Generation	445 MW Fossil Fuel Steam Generator
002	Power Generation	445 MW Fossil Fuel Steam Generator

The proposed project is called selective catalytic reduction (SCR). Recent NO_x control projects on Units 1 and 2 include installation of new coal burners suitable for low NO_x operation.

REGULATORY CLASSIFICATION

The facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), nitrogen oxides (NO_X), carbon monoxide (CO), or volatile organic compounds (VOC), exceed 100 tons per year (TPY).

The addition of SCR to Units No. 1 and 2 reduces NO_x emissions. The proposed project constitutes work that the Tampa Electric Company is expressly directed to undertake by a consent decree and a consent final judgment with the U.S. Environmental Protection Agency and the Florida Department of Environmental Protection.

PERMIT SCHEDULE

- February 23, 2006 Notice of Intent to Issue Permit published.
- February 2, 2006 Intent to Issue Permit distributed.
- December 29, 2005 Application deemed complete.
- December 29, 2005 Application received.

RELEVANT DOCUMENTS

The documents listed below are the basis of the permit. They are specifically related to this permitting action, but not all are incorporated into this permit. These documents are on file with the Department.

- Application received on December 29, 2005.
- The Department's Technical Evaluation and Preliminary Determination, issued concurrently with the draft air construction permit.
- EPA Consent Decree (U.S. vs. TEC) dated February 29, 2000, amended October 4, 2000.
- FDEP Consent Final Judgment (DEP vs. TEC) dated December 6, 1999.
- Title V Air Operation Permit Renewal No. 0570039-017-AV.
- Tampa Electric Submittals for PSC Docket 040750-EI.
- E-mail memorandum from EPA received on September 15, 2005.

PROJECT DESCRIPTION

TEC will install SCR systems for NO_X control on the facility's Units No. 1 and 2 coal-fired boilers. These emissions units are Riley Stoker Corporation "wet" bottom utility boilers, with a generator nameplate rating of 445 megawatts (MW). The basic boiler startup and shutdown procedures will not need to be altered with the addition of the SCR (i.e., the existing Units' boiler ramp rate is adequate for the SCR catalyst). The project consists of:

- Installation of a "three plus one" SCR reactor downstream of the economizer and upstream of the air preheater.
- Installation of an ammonia storage, supply, and injection system, the details of which are still under development.
- SCR tuning (i.e., adjustment of the ammonia injection grid) during the initial commissioning of the system and periodically thereafter.
- Installation of an ammonia injection sulfur trioxide (SO_3) control system downstream of the Units' air preheaters.
- Assessment of combined effects of SCR and previous NO_X and SO_3 control system projects upon fly ash marketability, and development of treatment, reuse, or disposal options for the fly ash.

The project is much more involved than suggested by the brief description above. Following are additional details of the work likely to occur in association with the SCR installation:

- Demolition of existing flue gas ductwork as necessary to tie-in the SCR system
- Demolition of existing structural steel, modification and reinforcement of existing steel supports for a new duct from the existing steel
- Economizer gas temperature control
- Gas ductwork from economizer outlet to the SCR inlet (includes hoppers, mixers and turning vanes)
- SCR reactor (includes equipment for catalyst management) and catalyst
- Gas ductwork between the SCR & air heater
- Foundations for ductwork and structural steel
- Structural modifications for construction cranes
- Ammonia or Urea to ammonia conversion system
- Air heater modifications
- Electrical modifications
- Relocation of existing equipment and utilities
- Mobilization/demobilization
- Equipment rental
- Engineering construction management
- Asbestos removal
- Boiler and ESP reinforcement
- New Induced Draft ("ID") fans and motors
- ID fan foundations and electrical
- New and modified ductwork
- Auxiliary power and controls modifications

PROJECT SCHEDULE

Emissions Unit ID Number	Estimated start date	Estimated completion date
001	August 1, 2006	May 1, 2010
002	August 1, 2006	May 1, 2009

ADMINISTRATIVE REQUIREMENTS

A.1. Regulating Agencies. All documents related to applications for permits to construct, operate or modify an emissions unit should be submitted to the Bureau of Air Regulation, Florida Department of Environmental Protection, at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, and phone number (850) 488-0114. All documents related to reports, tests, and notifications should be submitted to the Environmental Protection Commission of Hillsborough County, and copies of those submittals shall be sent to the Department of Environmental Protection, Southwest District Office.

Addresses and telephone numbers are:

Environmental Protection Commission of Hillsborough County
Roger P. Stewart Center
3629 Queen Palm Drive
Tampa, Florida 33619
Telephone: 813/627-2600; Fax: 813/627-2660

Department of Environmental Protection
Southwest District Office, Air Resources Section
13051 N Telecom Parkway
Temple Terrace, FL 33637-0926
Telephone: 813/632-7600; Fax: 813/632-7665

A.2. General Conditions. The owner and operator is subject to, and shall operate under the attached General Permit Conditions **G.1.** through **G.15.** listed in Appendix GC of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes.
[Rule 62-4.160, F.A.C.]

A.3. Terminology. The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code (F.A.C.).

A.4. Forms and Application Procedures. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C., and follow the application procedures in Chapter 62-4, F.A.C.
[Rule 62-210.900, F.A.C.]

A.5. Modifications. The permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change.
[Chapters 62-210 and 62-212, F.A.C.]

A.6. New or Additional Conditions. For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.
[Rule 62-4.080, F.A.C.]

A.7. Permit Extension. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit.
[Rule 62-4.080, F.A.C.]

APPLICABLE STANDARDS AND REGULATIONS

A.8. Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S., and Florida Administrative Code Chapters 62-4, 62-103, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297.

A.9. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations.
[Rule 62-210.300, F.A.C.]

A.10. The facility is subject to all of the requirements specified in Title V Air Operation Permit Renewal No. 0570039-017-AV.

A.10.1. An application for a Title V Air Operation Permit Revision, pursuant to Chapter 62-213, F.A.C., must be submitted to the Department's Bureau of Air Regulation to incorporate the specific conditions of this Air Construction Permit.
[Chapter 62-213, F.A.C.]

GENERAL OPERATION REQUIREMENTS

A.11. Unconfined Particulate Emissions. During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary.
[Rule 62-296.320(4)(c)., F.A.C.]

A.12. Plant Operation – Problems. If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the Environmental Protection Commission of Hillsborough County as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit and the regulations.
[Rule 62-4.130, F.A.C.]

A.13. Operating Procedures. Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment.
[Rule 62-4.070(3), F.A.C.]

A.14. Circumvention. The owner or operator shall not circumvent the air pollution control equipment nor operate the SCR equipment in such a manner which would violate allowable emission rates stated herein, notwithstanding the conditions provided in **A.15.1.**
[Rule 62-210.650, F.A.C.]

CONTROL TECHNOLOGY

A.15. The permittee shall install selective catalytic reduction (SCR) systems for nitrogen oxides (NO_X) control on the facility's Units No. 1 and 2 solid fuel-fired boilers.
[Applicant Request and EPA Consent Decree (U.S. vs. TEC) dated February 29, 2000, amended October 4, 2000, and FDEP Consent Final Judgment (DEP vs. TEC) dated December 6, 1999.]

SCR OPERATION

A.15.1 The permittee shall operate the SCR system in accordance with the SCR system supplier's recommendations, including operating the SCR between minimum and maximum operating temperatures.
[Rule 62-4.070(3), F.A.C.]

A.15.2. The partial SCR maintenance bypass duct is normally closed except during maintenance periods.
[Rule 62-4.070(3), F.A.C.]

A.15.3. Abnormal events: "Abnormal events" are defined as an unanticipated interruption, malfunction, or failure of the pipeline or associated equipment utilized to supply ammonia to the Big Bend Station for use in the operation of the selective catalytic reduction control system. Excess emissions occurring from operation of the boilers during an abnormal event are authorized provided that best operational practices are employed to minimize the amount and duration of the emissions during an abnormal event. Emissions data collected during "abnormal events" may be excluded from the 30-day rolling compliance averages in accordance with this condition.
[Rule 62-4.070(3), F.A.C.]

EMISSION LIMITS AND STANDARDS

A.16. After April 30, 2010, NO_X emissions (reported as NO_2) from Unit No. 1 when combusting solid fuel, shall not exceed 0.12 lb NO_x/million Btu heat input on a heat input weighted 30 boiler operating day rolling average basis. After April 30, 2009, NO_X emissions (reported as NO_2) from Unit No. 2 when combusting solid fuel, shall not exceed 0.12 lb NO_x/million Btu heat input on a heat input weighted 30 boiler operating day rolling average basis. These emission limits are based on the definition of "emission rate" so that an equation is used that divides total pounds of NO_x by total heat input in each 30-day period to reach a 30-day rolling average.
[Applicant Request and EPA Consent Decree (U.S. vs. TEC) dated February 29, 2000, amended October 4, 2000, and FDEP Consent Final Judgment (DEP vs. TEC) dated December 6, 1999; E-mail memorandum from EPA received on September 15, 2005.; and Rule 62-4.070(3), F.A.C.]
{Permitting Note: Limits in this condition are sufficient to also comply with requirements of: Rule 62-204.800(7)(b)2., F.A.C.; 40 CFR 60.44a(a); 40 CFR 60.4a(c); and PSD-FL-040]

A.17. Ammonia slip, measured at the stack downstream of all emissions control systems, shall not exceed 10 parts per million by volume (ppmv). Annual testing of ammonia slip shall be conducted, and corrective measures taken if measured values exceed 5 ppmv.
[Applicant request; and Rule 62-4.070(3), F.A.C.]

COMPLIANCE DETERMINATION

A.18. Nitrogen oxides emissions shall be continuously monitored to confirm compliance, using the Unit's existing continuous emissions monitoring system (CEMS). Compliance is determined by calculating the heat input weighted average of all hourly emission rates for NO_X for the 30 successive boiler operating days, except for data obtained during startup, shutdown, malfunction, or abnormal events. [Rule 62-204.800(7)(b)2., F.A.C.; 40 CFR 60.46a(g); 0570039-017-AV; and Rule 62-4.070(3), F.A.C.]

A.19. Compliance with the ammonia (NH_3) slip limit shall be determined using EPA conditional test method (CTM-027), EPA method 320, or other methods approved by the Department.
[Rule 62-4.070(3), F.A.C.]

A.20. Compliance with the emission limiting standards specified in this Air Construction Permit shall be determined by April 30, 2010, for Unit No. 1, and by April 30, 2009, for Unit No. 2, and annually thereafter, using the appropriate specific conditions of the facility's existing Title V Air Operations Permit No. 0570039-017-AV, by using the appropriate EPA reference test methods, or Department test methods. [0570039-017-AV; and Rules 62-204.220 and 62-4.070(3), F.A.C.]

A.21. Compliance with the heat input weighted 30-day rolling average NO_X emission limit of 0.12 lb NO_x/mmBtu shall be demonstrated using CEMS data beginning May 31, 2010 (or 30 boiler operating days after May 1, 2010), for Unit No. 1, and beginning May 31, 2009 (or 30 boiler operating days after May 1, 2009), for Unit No. 2, and every 30 boiler operating days thereafter.
[Rule 62-4.070(3), F.A.C.]

A.22. Test Results. Compliance test results shall be submitted to the Environmental Protection Commission of Hillsborough County and the Department no later than 45 days after completion of the last test run.
[Rule 62-297.310(8), F.A.C.]

NOTIFICATION, REPORTING, AND RECORDKEEPING

A.23. Emission Compliance Stack Test Reports. A test report indicating the results of the required compliance tests shall be filed as per Specific Condition **A.22.** The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the compliance authority to determine if the test was properly conducted and if the test results were properly computed.
[Rule 62-297.310(8), F.A.C.]

COMPLIANCE ASSURANCE

A.24. Compliance Assurance Monitoring (CAM). The permittee shall evaluate the applicability of CAM to Units No. 1 and 2, and, if applicable, submit a CAM plan as a revision to the facility's current Title V air operation permit.
[40 CFR 64; and Rule 62-204.800, F.A.C.]

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

   a. Have access to and copy and records that must be kept under the conditions of the permit;
   b. Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
   c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

   Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

   a. A description of and cause of non-compliance; and

   b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

    a. Determination of Best Available Control Technology (NA);
    b. Determination of Prevention of Significant Deterioration (NA); and
    c. Compliance with New Source Performance Standards (NA).

14. The permittee shall comply with the following:

    a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

    b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

    c. Records of monitoring information shall include:

        1) The date, exact place, and time of sampling or measurements;
        2) The person responsible for performing the sampling or measurements;
        3) The dates analyses were performed;
        4) The person responsible for performing the analyses;
        5) The analytical techniques or methods used; and
        6) The results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

MEMORANDUM

To: Michael G. Cooke

From: Trina L. Vielhauer

Date: March 14, 2006

Subject: Final Air Construction Permit No. **0570039-024-AC**
Big Bend Station

This is an Air Construction Permit for the installation of selective catalytic reduction (SCR) systems for nitrogen oxides (NO_x) control on the facility's Units No. 1 and No. 2 coal-fired boilers. The bases for this permit are agreements entered into by Tampa Electric Company with the Environmental Protection Agency, and the Department, concerning the installation of additional pollution control systems at the facility. *Implementing this project will result in a significant decrease in nitrogen oxides potential emissions from the boilers.*

I recommend your signature.

Mike,
This is the last 2 SCR units (3&4 already permitted). Cabon Burnout (CBO) is still on hold as TECO & EPA discuss PSD & NOx limits.
Trina

7000 1670 0013 3110 1687

Certified Fee

Return Receipt Fee (Endorsement Required)

Restricted Delivery Fee (Endorsement Required)

Postmark Here

Ms. Karen Sheffield, General Manager
Big Bend Station
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

PS Form 3800, May 2000 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Karen Sheffield, General Manager
Big Bend Station
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7000 1670 0013 3110 1687

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

TAMPA ELECTRIC

February 27, 2006

Mr. Thomas Cascio,
Florida Department of Environmental Protection
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32301

Via FedEx
Airbill No. 7926 7089 9434

Re: Tampa Electric Company
Big Bend Station Unit 1 and 2
Selective Catalytic Reduction
Proof of Publication of the Intent to Issue
FDEP File No. 0570039-024-AC

Dear Mr. Cascio:

Pursuant to Rule 62-110.106(5), F.A.C., enclosed is the proof of publication of the Notice of Intent to Issue the Tampa Electric Company Big Bend Station Unit 1 and 2 Selective Catalytic Reduction Air Construction Permit. This notice was published in the legal section of the Tampa Tribune on Thursday, February 23, 2006.

Thank you for your attention to this matter. If you have any concerns or questions feel free to contact me or Shelly Castro at (813) 228-4408.

Sincerely,

Byron T. Burrows
Manager - Air Programs
Environmental, Health & Safety

EHS\rlk\SSC251

Enclosure

c/enc: Mr. Al Linero-FDEP
Mr. Sterlin Woodard-EPC
Ms. Alice Harman-EPC

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

(813) 228-4111

AN EQUAL OPPORTUNITY COMPANY
HTTP://WWW.TAMPAELECTRIC.COM

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

shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that 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 such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Dept. of Environmental Protection
Bureau of Air Regulation
Suite 4, 111 S. Magnolia Drive
Tallahassee, Florida 32301
Telephone: 850/488-0114
Fax: 850/922-6979

Dept. of Environmental Protection
Southwest District
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Telephone: 813/632-7600
Fax: 813/632-7665

Hillsborough County Environmental Protection Commission
Air Management Division
3629 Queen Palm Drive
Tampa, Florida 33619
Telephone: 813/627-2600

The complete project file includes the permit application, technical evaluation, Draft construction permit, and the information submitted by the responsible official exclusive confidential records under Section 403,111, F.S. Interested persons may contact the Departments reviewing engineer for this project, Tom Cascio, at MS 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, or Tom.Cascio@dep.state.fl.us or call 850/921-9526 for additional information. Key documents may also be viewed at: www.dep.state.fl.us/Air/permitting/construction.htm in the power plant category.

3172 02/23/06

IE TAMPA TRIBUNE
Published Daily
Hillsborough County, Florida

onally appeared C. Pugh, who on oath says that she is the Advertising Billing
aily newspaper published at Tampa in Hillsborough County, Florida; that the
a
LEGAL NOTICE IN THE TAMPA TRIBUNE

PUBLIC NOTICE OF INTENT

e issues of
FEBRUARY 23, 2006

ampa Tribune is a newspaper published at Tampa in said Hillsborough County,
as heretofore been continuously published in said Hillsborough County, Florida,
cond class mail matter at the post office in Tampa, in said Hillsborough County,
receding the first publication of the attached copy of advertisement; and affiant
nor promised any person, this advertisement for publication in the said newspaper.

24 day
, A.D. 2006

dentification

Tanya Patrick

RY SEAL
RICK
UMBER
15
N EXP.
06

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL
PROTECTION

DEP File No:
0570039-024-AC

Tampa Electric Company
Big Bend Station,
Hillsborough County.

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to the Tampa Electric Company (TEC) for the Big Bend Station located at Big Bend Road, North Ruskin, Hillsborough County. This permit is for installation of selective catalytic reduction (SCR) systems on Steam Generator Units No. 1 and 2 for the reduction of emissions of nitrogen oxides (NOx). A Best Available Control Technology (BACT) determination was not required pursuant to Rules 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The applicant's mailing address is: Tampa Electric Company, P.O. Box 111, Tampa, Florida 33601-0111.

The SCR project is part of a larger program by TEC pursuant to a Consent Final Judgment (CFJ) with the Department and a Consent Decree (CD) with the Environmental Protection Agency to reduce emissions from its coal fired plants. There have been very substantial reductions of sulfur dioxide (SO2) to-date primarily due to the installation of a scrubber on Units No. 1 and 2. Other NOx control projects including installation of Low NOx burners and separate overfire air were previously approved.

This air construction permit will establish the SCR project as an applicable requirement for, subsequent incorporation into the facility's Title V Air Operation Permit. For reference, the permit will include a limit of 0.12 pounds of NOx per million Btu of heat input (lb/mmBtu) from Units No. 1. and 2.

The new NOx emissions limit is much less than the other applicable limit of 0.74 lb/mmBtu for the same unit under the Federal Acid Rain Program. Further control of NOx will reduce ozone formation potential in the Tampa Bay area. SCR in combination with the existing scrubber on Units No. 1 and 2 is also expected to reduce mercury emissions.

The Department will issue the Final construction permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

MEMORANDUM

To: Trina Vielhauer

Through: Al Linero and Scott Sheplak

From: Tom Cascio

Date: January 26, 2006

Subject: Draft Air Construction Permit No. **0570039-024-AC**
Big Bend Station

This is an Air Construction Permit for the installation of selective catalytic reduction (SCR) systems for nitrogen oxides (NO_x) control on the facility's Units No. 1 and No. 2 coal-fired boilers. The bases for this permit are agreements entered into by Tampa Electric Company with the Environmental Protection Agency, and the Department, concerning the installation of additional pollution control systems at the facility. *Implementing this project will result in a significant decrease in nitrogen oxides potential emissions from the boiler.*

I recommend your signature and forwarding to Mary for clerking.

Department of
Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

January 26, 2006

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Karen Sheffield, General Manager
Big Bend Station
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

Re: **Big Bend Units No. 1 and 2**
DEP File No. **0570039-024-AC**
Selective Catalytic Reduction System

Dear Ms. Sheffield:

Enclosed are documents indicating the Department's intent to issue an air construction permit for the installation of selective catalytic reduction systems on Units No. 1 and 2 at the Big Bend Station in Tampa. The documents include: the "Intent to Issue Air Construction Permit"; the "Public Notice of Intent to Issue Air Construction Permit"; the Department's "Technical Evaluation and Preliminary Determination"; and the Draft Permit.

The Public Notice must be published one time only as soon as possible in a newspaper of general circulation in the area affected, pursuant to Chapter 50, Florida Statutes. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within seven (7) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

Electronic versions of these documents have been posted on the Division of Air Resource Management's world wide web site for the United States Environmental Protection Agency (U.S. EPA) Region 4 office's review. The web site address is:

http://www.dep.state.fl.us/air/eproducts/ards/default.asp (Permit No. 0570039-024-AC)

Please submit any other written comments you wish to have considered concerning the Department's proposed action to Mr. A. A. Linero, Program Administrator, Permitting South Section, at the above letterhead address. If you have any questions, please call Tom Cascio at 850/921-9526 or Mr. Linero at 850/921-9523.

Sincerely,

for Trina L. Vielhauer, Chief
Bureau of Air Regulation

TLV/aal/tc

Enclosures

In the Matter of an
Application for Permit by:

Ms. Karen Sheffield, General Manager
Big Bend Station
Tampa Electric Company
P.O. Box 111
Tampa, FL 33601-0111

DEP File No. 0570039-024-AC
Nitrogen Oxides Reduction Project
Selective Catalytic Reduction
Big Bend Station Units No. 1 and 2
Hillsborough County

INTENT TO ISSUE AIR CONSTRUCTION PERMIT

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit (copy of permit attached) for the project, detailed in the application specified above and the enclosed Technical Evaluation and Preliminary Determination, for the reasons stated below.

The applicant, Tampa Electric Company (TEC), operates the Big Bend Station located at Big Bend Road, North Ruskin, Hillsborough County. TEC applied on December 29, 2005, for an air construction permit to install selective catalytic reduction (SCR) systems for nitrogen oxides (NO_x) control on the facility's Units No. 1 and 2 coal-fired boilers. The project is part of a larger program by TEC pursuant to a Consent Final Judgment with the Department and a Consent Decree with the Environmental Protection Agency to reduce emissions from the coal fired plants. This air construction permit will also establish these specific projects as applicable requirements for subsequent incorporation into the facility Title V Operation Permit.

The Department has permitting jurisdiction under the provisions of Chapter 403.087, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 and 62-213. This action is not exempt from permitting procedures. The Department has determined that an air construction permit is required.

The Department intends to issue this air construction permit based on the belief that reasonable assurances have been provided to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1., F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Construction Permit. The notice shall be published one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax 850/ 922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the final construction permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of fourteen (14) days from the date of publication of Public Notice. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the construction permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that 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 such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation is not available in this proceeding.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying

(implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.

for Trina L. Vielhauer, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Intent to Issue Air Construction Permit (including the Public Notice, Technical Evaluation and Preliminary Determination, and the Draft permit) was sent by certified mail (*) and copies were mailed by U.S. Mail or by e-mail before the close of business on 2/2/06 to the person(s) listed:

Karen Sheffield, General Manager, TEC Big Bend Station*
Thomas Davis, P.E., Environmental Consulting and Technology, Inc.
Shelly Castro, TEC
Alice Harman, EPCHC
Mara Nasca, FDEP-SWD
David Lloyd, EPA Region 4

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

(Clerk) 2/2/06 (Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. 0570039-024-AC

Tampa Electric Company
Big Bend Station, Hillsborough County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to the Tampa Electric Company (TEC) for the Big Bend Station located at Big Bend Road, North Ruskin, Hillsborough County. This permit is for installation of selective catalytic reduction (SCR) systems on Steam Generator Units No. 1 and 2 for the reduction of emissions of nitrogen oxides (NO_X). A Best Available Control Technology (BACT) determination was not required pursuant to Rules 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The applicant's mailing address is: Tampa Electric Company, P.O. Box 111, Tampa, Florida 33601-0111.

The SCR project is part of a larger program by TEC pursuant to a Consent Final Judgment (CFJ) with the Department and a Consent Decree (CD) with the Environmental Protection Agency to reduce emissions from its coal fired plants. There have been very substantial reductions of sulfur dioxide (SO_2) to-date primarily due to the installation of a scrubber on Units No. 1 and 2. Other NO_X control projects including installation of Low NO_X burners and separate overfire air were previously approved.

This air construction permit will establish the SCR project as an applicable requirement for subsequent incorporation into the facility's Title V Air Operation Permit. For reference, the permit will include a limit of 0.12 pounds of NO_X per million Btu of heat input (lb/mmBtu) from Units No. 1 and 2.

The new NO_X emissions limit is much less than the other applicable limit of 0.74 lb/mmBtu for the same unit under the Federal Acid Rain Program. Further control of NO_X will reduce ozone formation potential in the Tampa Bay area. SCR in combination with the existing scrubber on Units No. 1 and 2 is also expected to reduce mercury emissions.

The Department will issue the Final construction permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed construction permit issuance action for a period of fourteen (14) days from the date of publication of this Public Notice of Intent to Issue Air Construction Permit. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent,

whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that 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 such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A complete project 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:

Dept. of Environmental Protection Bureau of Air Regulation Suite 4, 111 S. Magnolia Drive Tallahassee, Florida, 32301 Telephone: 850/488-0114 Fax: 850/922-6979	Dept. of Environmental Protection Southwest District 13051 N Telecom Parkway Temple Terrace, FL 33637-0926 Telephone: 813/ 632-7600 Fax: 813/ 632-7665	Hillsborough County Environmental Protection Commission Air Management Division 3629 Queen Palm Drive Tampa, Florida 33619 Telephone: 813/627-2600

The complete project file includes the permit application, technical evaluation, Draft construction permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Department's reviewing engineer for this project, Tom Cascio, at MS 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, or Tom.Cascio@dep.state.fl.us , or call 850/921-9526 for additional information. Key documents may also be viewed at: www.dep.state.fl.us/Air/permitting/construction.htm in the power plant category.

Department of
Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

P.E. Certification Statement

Permittee:
Tampa Electric Company
Big Bend Station

Permit No.: 0570039-024-AC

Project Type: Air Construction Permit
Unit Nos. 1 and 2 Selective Catalytic Reduction (SCR) System Installation

I HEREBY CERTIFY *that the engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).*

Scott M. Sheplak, P.E. Date
Registration Number: 48866

Permitting Authority:
Department of Environmental Protection
Bureau of Air Regulation
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32301
Telephone: 850/921-9532
Fax: 850/921-9533

SMS/TBC

1.0 APPLICATION INFORMATION

1.1 Applicant Name and Address

Tampa Electric Company
P.O. Box 111
Tampa, Florida 33601-0111

Representative: Karen Sheffield, General Manager, Big Bend Station

1.2 Reviewing and Process Schedule

12-29-05: Date of receipt of request at FDEP Bureau of Air Regulation
12-29-05: Application deemed complete
Issued intent

2.0 FACILITY INFORMATION

2.1 Facility Location: Big Bend Station located at Big Bend Road, North Ruskin, Hillsborough County

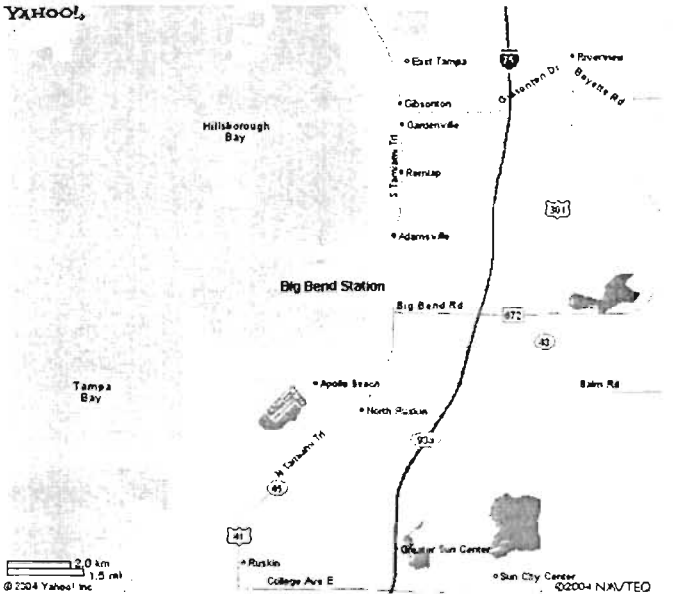


Figure 1. Ruskin, Apollo Beach, Big Bend

Figure 2. Big Bend Station

2.2 Standard Industrial Classification Code (SIC)

Major Group No.	49	Electric, Gas, and Sanitary Services
Group No.	491	Electric Services
Industry No.	4911	Electric Services

2.3 Existing Facility/Emission Unit Description

This facility is an electric utility.
This air construction permit will affect Steam Generator Units No. 1 and 2.

2.4 Regulatory Classification

Because potential emissions of at least one regulated pollutant exceed 100 tons per year, the existing facility is a Title V major source of air pollution in accordance with Chapter

62-213, F.A.C. Regulated pollutants include pollutants such as carbon monoxide (CO), nitrogen oxides (NO_X), particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), and volatile organic compounds (VOC).

The existing facility is a major source of hazardous air pollutants (HAPs).

The facility operates emissions units subject to the acid rain provisions of the Clean Air Act.

The facility is considered a "fossil fuel fired steam electric plant of more than 250 million BTU per hour of heat input". This kind of facility is one of the 28 source categories with the lower applicability threshold of 100 tons per year with respect to the Rule 62-212.400, Prevention of Significant Deterioration of Air Quality (PSD). Potential emissions of at least one regulated pollutant exceed 100 tons per year. Therefore, the facility is classified as a PSD-major source.

Unit 4 was certified pursuant Electrical Power Plant Siting in accordance with Chapter 62-17, F.A.C. and Chapter 403, Part II, F.S.

3.0 PERMITTING STATUS

Operation of the Big Bend Station is authorized by the Title V Operation Permit Revision 0570039-017-AV that has an effective date of January 1, 2005, and expires on December 31, 2009. The current permit includes the applicable requirements from federal and state regulations and construction permits. It also includes a Consent Final Judgment (CFJ, DEP vs. TEC) dated December 6, 1999, and a Consent Decree (CD, EPA vs. TEC) dated February 29, 2000, and amended October 4, 2000. The CFJ and CD require substantial progressive emission reductions from the four coal fired steam generation units by specific dates.

The current Title V Operation Permit includes a number of projects or improvements pursuant to the CFJ and CD including: improved scrubbing efficiency on Units 1 and 2; Low NO_X Burners (LNBs) on Units 1, 2, and 3; installation of new coal nozzles suitable for low NO_X operation; modification redesign of windbox components to allow for proper distribution and staging of air; and installation of a separate overfire air (SOFA) system on Unit 4.

4.0 ADDITIONAL NO_X CONTROL REQUIREMENTS

Section V.E. of the CFJ requires that:

> *Tampa Electric Company shall add nitrogen oxide controls, repower or shut down Units 1 through 3 at Big Bend Station by May 2010 and at Unit 4 by May 2007. If SCRs or similar nitrogen oxide controls are installed, BACT for nitrogen oxide will be 0.10 lbs/mmBtu on Unit 4 and 0.15 lbs/mmBtu on Units 1, 2, and 3.*

Section IV.B.36 of the CD requires that:

> *Tampa Electric shall advise EPA in writing, on or before May 1, 2007, whether Big Bend Units 1, 2, or 3, or any combination of them, will be Shutdown, will be Re-Powered, or will continue to be fired by coal.*

By letter dated August 19, 2004, Tampa Electric advised EPA that:

Based on the results of a recent comprehensive study performed on Big Bend Station, Big Bend Units 1, 2, 3 and 4 will continue to be fired on coal and as such will comply with the applicable provisions of the Consent Decree associated with this decision.

Section IV.B.37.A of the CD requires that:

...Tampa Electric shall install, at each Unit that will continue to combust coal, the NO_x control technology designed to achieve the lowest Emission Rate that can be attained within the "installation cost ceiling." Notwithstanding any provision of this Consent Decree, including the "installation cost ceiling," Tampa Electric shall install NO_x control technology that is designed to achieve an Emission Rate no less stringent than 0.15 lb/mmBTU.

By letter dated May 31, 2005, Tampa electric advised EPA that:

The actual cost to install SCRs on Big Bend Units 1 through 3 is projected to be $264,387,249. Since the installation cost ceiling has been exceeded by $39,018,183, a NO_x emission limit of 0.15 lb/MMBtu is clearly applicable under Paragraph 37 of the CD.

In an e-mail memorandum from EPA dated September 15, 2005, the Department received the following additional information related to the proposed project:

As we discussed over the phone, here is a status update concerning NOx limits at Big Bend. EPA/DOJ and TECO have reached a verbal agreement to amend the Consent Decree in the following manner:

1. Assign a NOx "emissions rate" for Big Bend Units 1, 2 and 3 of 0.12 lbs/mmBtu.

2. Modify the definition of "emissions rate" so that an equation is used that divides total pounds by total heat in each 30-day period to reach a 30-day rolling average.

TAMPA ELECTRIC PROPOSAL TO COMPLY WITH CFJ AND CD

By letter dated July 15, 2004, Tampa Electric submitted a petition to the Florida Public Service Commission for approval of new environmental programs for cost recovery through the environmental Recovery Clause at Section 366.8255, Florida Statutes.

The petition summarizes the CFJ and CD and includes a study conducted by Tampa Electric and its consultant, Sargent Lundy. The study justifies the decision to continue operating Units 1 through 4 as coal-fired units and installing SCR to comply with the NO_X requirements of the CFJ and CD.

The repowering options evaluated in the study included reboilering with subcritical pulverized coal ("PC") boilers, circulating fluidized bed ("CFB") boilers, conversion of

the existing boilers to natural gas, combined cycle ("CC") gas turbine technology and IGCC similar to the Polk facility.

The greenfield options evaluated in the Study included all the foregoing repowering technologies with the exceptions that new PC boilers would be supercritical, and natural gas fired Rankin cycle units would not be evaluated due to lower cycle heat rates.

The cost to install SCR on the four existing coal-fired units was estimated to be $305,450,000 whereas the cost of the least expensive CFB repowering option was estimated to be $700,000,000 more. The cost to install SCRs on Units 1 through 3 was projected to be $264,387,249. The annual operating and maintenance costs for the four units were estimated to be $12,750,000.

By an order dated October 11, 2004, and consummated (made final) on November 4, 2004, the PSC granted Tampa Electric's petition.

5.0 SCR PROJECT ON UNITS 1 AND 2

Much of the following description is from applications submitted to the Department on December 29, 2005. Some additional details are from the Tampa Electric website or their filings with the PSC.

Figure 3 is a diagram of the proposed SCR installation at each unit. This configuration is typically known as dusty or hot side SCR meaning it is placed before the electrostatic precipitator.

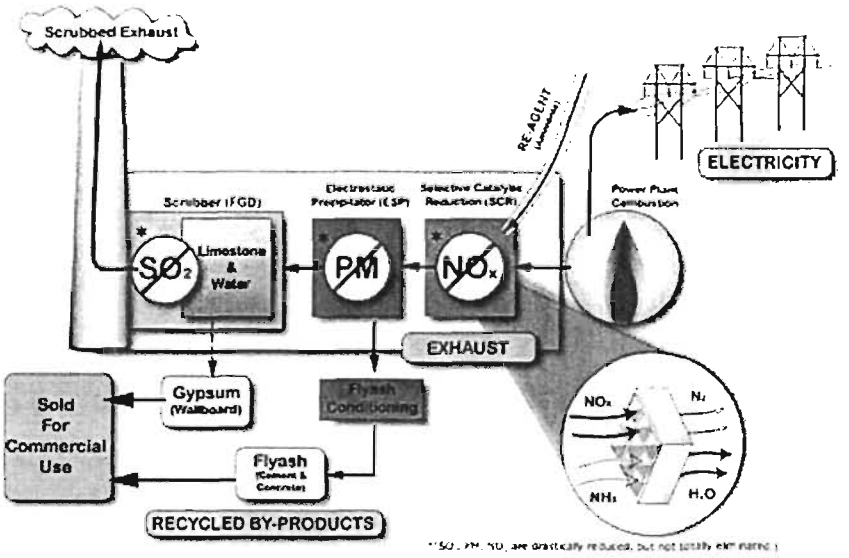


Figure 3. Diagram of SCR Installation and Existing Pollution Control Equipment

Following are key points regarding the proposed project:

- The SCR systems will be installed downstream of the economizer and upstream of the air preheater.
- The SCR reactors will be designed as a three plus one catalyst configuration. It is planned that the forth catalyst management layer, designed to maximize the residual

catalyst life and lower operating costs, will be initially empty and will be installed as the initial three catalyst layers lose activation.

- The applicant has indicated that available options with respect to ammonia type and supply are currently being evaluated. Thus, details of the installation of an ammonia storage, supply, and injection system are still under development. The options include use of anhydrous ammonia supplied by pipeline without on-site storage. TEC has indicated that they not have any management control over the operation of the pipeline. The Department will be sent update reports as the study progresses.
- SCR tuning (i.e., adjustment of the ammonia injection grid) will be performed during the initial commissioning of the system.
- The Applicant will install an ammonia injection system immediately downstream of the each unit's air preheater to control the increase of sulfur trioxide (SO_3) that the applicant expects will result from the use of a vanadium-containing catalyst in SCR control systems.
- The Applicant has proposed that ammonia slip, measured at the stack downstream of all emissions control systems, be targeted at 5 parts per million by volume (ppmv). Annual testing of ammonia slip will be conducted and corrective measures taken if this target level is exceeded.
- The basic boiler startup and shutdown procedures will not need to be altered with the addition of the SCR (i.e., the existing Unit No. 1 and 2 boiler ramp rates are adequate for the SCR catalyst).
- The Applicant reviewed the impact that the operation of an SCR system would have on coal combustion by-products and found that the fly ash would have limited marketability due to high ammonia content and carbon content. Therefore, a large portion of the fly ash could potentially need to be disposed of in a landfill. The Applicant researched this issue and found that other companies mitigate the SCR impact on fly ash by using carbon burnout technology (CBO) to reduce the carbon content. The Applicant evaluated this technology, has determined it to be feasible at the facility, and has submitted an air construction permit application to the Department to implement the CBO technology.

More specific details of the capital cost components of the SCR systems include:

- Demolition of existing flue gas ductwork as necessary to tie-in the SCR systems
- Demolition of existing structural steel, modification and reinforcement of existing steel supports for a new duct from the existing steel
- Economizer bypass for gas temperature control
- Gas ductwork from economizer outlet to the SCR inlet (includes hoppers, mixers and turning vanes)
- SCR reactors (includes equipment for catalyst management)
- Gas ductwork between the SCR & air heater
- Foundations for ductwork and structural steel

- Structural modifications for construction cranes
- Electrical modifications
- Relocation of existing equipment and utilities
- Mobilization/demobilization
- Equipment rental
- Engineering construction management
- New and modified ductwork
- Auxiliary power and controls modifications

The Department notes that the scrubber should be able to remove SO_3 formed in the SCR system and ammonium sulfate/sulfite/bisulfite species to a high degree. The Department notes that with respect to combustion by-products, the ash would most likely be affected by previous combustion modifications rather than by the SCR system. The SCR system could have some effect on the ash due to presence of ammonia, some of which could adhere to the fly ash.

6.0 PROJECT SCHEDULE

Emissions Unit ID Number	Estimated Start Date	Estimated Completion Date
001	August 1, 2006	May 1, 2010
002	August 1, 2006	May 1, 2009

7.0 PROJECT EMISSIONS & RULE APPLICABILITY

There will be a decrease in the allowable emissions of nitrogen oxides (NOx) as a result of implementing this project. Noted below are the existing limits and the proposed changes for the pollutant:

Pollutant	Existing limits	Proposed limit
Nitrogen Oxides (NO_X)	0.74 pounds per mmBtu heat input (Acid Rain Part requirement using the NO_x emissions averaging plan). Heat input to Unit No. 1 is limited to 4037 mmBtu/hour. Heat input to Unit No. 2 is limited to 3996 mmBtu/hour.	0.12 pounds per mmBtu heat input. This emission limit is based on the definition of "emission rate" so that an equation is used that divides total pounds of NO_x by total heat input in each 30-day period to reach a 30-day rolling average. Emissions will be continuously monitored to confirm compliance, using the Units' existing

		continuous emissions monitoring systems (CEMS).

According to the EPA Clean Air Markets Website, Units 1 and 2 emitted 0.86 lb/mmBtu and 0.85 lb/mmBtu, respectively, in 1998. In 2004, Units 1 and 2 emitted 0.71 lb/mmBtu. This shows that a modest reduction to-date has been achieved.

Further reduction to 0.10 lb/mmBtu can be accomplished without aggressive ammonia or urea injection. This supports the idea that SCR will not necessarily have as much effect on ash properties compared with similar projects at other plants. It is possible that Tampa Electric can back off somewhat in the combustion techniques used to reduce NO_X when SCR becomes available and then optimize the control stratagem to reduce impacts on ash.

Using the appropriate maximum heat input values for Unit No. 1 and Unit No. 2 (i.e., 4,037 mmBtu/hour and 3996 mmBtu, respectively), and the existing and proposed emissions limits for NO_X noted above, results in a calculation of the expected reduction of potential NO_X emissions of about 21,732 tons per year. This is equivalent to a 83% reduction from current allowable limits under the Acid Rain Part of the facility's Title V Permit Renewal. Computations follow below:

Unit No. 1:

(0.74 – 0.12) lbs/mmBtu = 0.62 lbs/mmBtu heat input reduction.

0.62 lbs/mmBtu x 4037 mmBtu/hour x 8760 hours per year / 2000 lbs/ton = 10,962 tons per year.

Based on a more realistic estimate of an 80 percent capacity factor and the most recent emission rate of 0.71 lb/mmBtu, the calculations are as follows:

(0.71 – 0.12) lbs/mmBtu = 0.59 lbs/mmBtu heat input reduction

0.59 lbs/mmBtu x 4037 mmBtu/hour x (0.80) x 8760 hours per year / 2000 lbs/ton = 8,345 tons per year.

Unit No. 2:

(0.74 – 0.12) lbs/mmBtu = 0.62 lbs/mmBtu heat input reduction.

0.62 lbs/mmBtu x 3966 mmBtu/hour x 8760 hours per year / 2000 lbs/ton = 10,770 tons per year.

Based on a more realistic estimate of an 80 percent capacity factor and the most recent emission rate of 0.71 lb/mmBtu, the calculations are as follows:

(0.71 – 0.12) lbs/mmBtu = 0.59 lbs/mmBtu heat input reduction

0.59 lbs/mmBtu x 3966 mmBtu/hour x (0.80) x 8760 hours per year / 2000 lbs/ton = 8,199 tons per year.

In summary, the addition of SCR to Units No. 1 and 2 will reduce actual as well as allowable NO_X emissions, and does not involve any other significant changes related to emissions of other pollutants or operational parameters (e.g., mass flow to the stack, other

than the addition of dilution air for ammonia injection, or stack temperature). The SCR system in combination with the existing scrubbers should help reduce mercury emissions as well.

The proposed project constitutes work that the Tampa Electric Company is expressly directed to undertake by a consent decree and a consent final judgment with the U.S. Environmental Protection Agency and the Florida Department of Environmental Protection.

The emission unit affected by this permit shall comply with all applicable provisions of the Florida Administrative Code (including applicable portions of the Code of Federal Regulations incorporated therein), and all specific conditions of the facility's existing Title V Air Operation Permit Renewal No. 0570039-017-AV.

8.0 CONCLUSION

Based on the foregoing technical evaluation of the application and other available information, the Department has made a determination that the proposed project will comply with all applicable state and federal air pollution regulations. The Department will issue a Draft Air Construction Permit to the applicant that provides for the above changes at the facility.

Department of
Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

DRAFT AIR CONSTRUCTION PERMIT NO. 0570039-024-AC

PERMITTEE

Tampa Electric Company (TEC)	File/Permit No.	**0570039-024-AC**
Big Bend Station	Facility ID:	0570039
Post Office Box 111	Project:	NO_X Reduction (SCR)
Tampa, Florida 33601-0111		Steam Generator Unit 1
		Steam Generator Unit 2
	SIC No.	4911
Authorized Representative:	Expires:	December 31, 2010
Karen Sheffield, General Manager	County	Hillsborough

PROJECT AND LOCATION

This is an Air Construction Permit for the installation of selective catalytic reduction systems for nitrogen oxides control on the solid fuel-fired Steam Generator Units No. 1 and 2. The reductions are part of an emissions reduction program required by a Consent Final Judgment with the Department and a Consent Decree with the United States Environmental Protection Agency. The air construction permit also establishes these specific projects as applicable Title V Operation Permit conditions.

The Tampa Electric Company (TEC) Big Bend Station is located at Wyandotte Road, Apollo Beach, Hillsborough County. UTM Coordinates are Zone 17, 361.9 km East and 3075.0 km North; Latitude: 27° 47' 36" North and Longitude: 82° 24' 11" West.

STATEMENT OF BASIS

This Air Construction Permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The above named permittee is authorized to install the SCR system at the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

THE ATTACHED APPENDIX IS MADE A PART OF THIS PERMIT:

Appendix GC Construction Permit General Conditions

Michael G. Cooke, Director
Division of Air Resource Management

MGC/TLV/SMS/tbc

FACILITY DESCRIPTION

This facility consists primarily of four existing fossil fuel steam generators (boilers) and three simple-cycle combustion turbines. Emissions from all steam generators are controlled by electrostatic precipitators (ESPs), and flue gas desulfurization (FGD) systems. There are ongoing nitrogen oxides (NO_X) control projects pursuant to a Consent Final Judgment (CFJ) between TEC and the Department and a Consent Decree (CD) between TEC and the United States Environmental Protection Agency (EPA).

EMISSIONS UNITS

This permit addresses the installation of an ammonia injection system and catalyst at the following Units:

Emission Unit No.	System	Emission Unit Description
001	Power Generation	445 MW Fossil Fuel Steam Generator
002	Power Generation	445 MW Fossil Fuel Steam Generator

The proposed project is called selective catalytic reduction (SCR). Recent NO_x control projects on Units 1 and 2 include installation of new coal burners suitable for low NO_x operation.

REGULATORY CLASSIFICATION

The facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), nitrogen oxides (NO_X), carbon monoxide (CO), or volatile organic compounds (VOC), exceed 100 tons per year (TPY).

The addition of SCR to Units No. 1 and 2 reduces NO_x emissions. The proposed project constitutes work that the Tampa Electric Company is expressly directed to undertake by a consent decree and a consent final judgment with the U.S. Environmental Protection Agency and the Florida Department of Environmental Protection.

PERMIT SCHEDULE

- Notice of Intent to Issue Permit published.
- Intent to Issue Permit distributed.
- December 29, 2005 Application deemed complete.
- December 29, 2005 Application received.

RELEVANT DOCUMENTS

The documents listed below are the basis of the permit. They are specifically related to this permitting action, but not all are incorporated into this permit. These documents are on file with the Department.

- Application received on December 29, 2005.
- The Department's Technical Evaluation and Preliminary Determination, issued concurrently with this draft air construction permit.
- EPA Consent Decree (U.S. vs. TEC) dated February 29, 2000, amended October 4, 2000.
- FDEP Consent Final Judgment (DEP vs. TEC) dated December 6, 1999.
- Title V Air Operation Permit Renewal No. 0570039-017-AV.
- Tampa Electric Submittals for PSC Docket 040750-EI.
- E-mail memorandum from EPA received on September 15, 2005.

PROJECT DESCRIPTION

TEC will install SCR systems for NO_X control on the facility's Units No. 1 and 2 coal-fired boilers. These emissions units are Riley Stoker Corporation "wet" bottom utility boilers, with a generator nameplate rating of 445 megawatts (MW). The basic boiler startup and shutdown procedures will not need to be altered with the addition of the SCR (i.e., the existing Units' boiler ramp rate is adequate for the SCR catalyst). The project consists of:

- Installation of a "three plus one" SCR reactor downstream of the economizer and upstream of the air preheater.
- Installation of an ammonia storage, supply, and injection system, the details of which are still under development.
- SCR tuning (i.e., adjustment of the ammonia injection grid) during the initial commissioning of the system and periodically thereafter.
- Installation of an ammonia injection sulfur trioxide (SO_3) control system downstream of the Units' air preheaters.
- Assessment of combined effects of SCR and previous NO_X and SO_3 control system projects upon fly ash marketability, and development of treatment, reuse, or disposal options for the fly ash.

The project is much more involved than suggested by the brief description above. Following are additional details of the work likely to occur in association with the SCR installation:

- Demolition of existing flue gas ductwork as necessary to tie-in the SCR system
- Demolition of existing structural steel, modification and reinforcement of existing steel supports for a new duct from the existing steel
- Economizer gas temperature control
- Gas ductwork from economizer outlet to the SCR inlet (includes hoppers, mixers and turning vanes)
- SCR reactor (includes equipment for catalyst management) and catalyst
- Gas ductwork between the SCR & air heater
- Foundations for ductwork and structural steel
- Structural modifications for construction cranes
- Ammonia or Urea to ammonia conversion system
- Air heater modifications
- Electrical modifications
- Relocation of existing equipment and utilities
- Mobilization/demobilization
- Equipment rental
- Engineering construction management
- Asbestos removal
- Boiler and ESP reinforcement
- New Induced Draft ("ID") fans and motors
- ID fan foundations and electrical
- New and modified ductwork
- Auxiliary power and controls modifications

PROJECT SCHEDULE

Emissions Unit ID Number	Estimated start date	Estimated completion date
001	August 1, 2006	May 1, 2010
002	August 1, 2006	May 1, 2009

ADMINISTRATIVE REQUIREMENTS

A.1. Regulating Agencies. All documents related to applications for permits to construct, operate or modify an emissions unit should be submitted to the Bureau of Air Regulation, Florida Department of Environmental Protection, at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, and phone number (850) 488-0114. All documents related to reports, tests, and notifications should be submitted to the Environmental Protection Commission of Hillsborough County, and copies of those submittals shall be sent to the Department of Environmental Protection, Southwest District Office.

Addresses and telephone numbers are:

Environmental Protection Commission of Hillsborough County
Roger P. Stewart Center
3629 Queen Palm Drive
Tampa, Florida 33619
Telephone: 813/272-5530; Fax: 813/272-5605

Department of Environmental Protection
Southwest District Office, Air Resources Section
13051 N Telecom Parkway
Temple Terrace, FL 33637-0926
Telephone: 813/632-7600; Fax: 813/632-7665

A.2. General Conditions. The owner and operator is subject to, and shall operate under the attached General Permit Conditions **G.1.** through **G.15.** listed in Appendix GC of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes.
[Rule 62-4.160, F.A.C.]

A.3. Terminology. The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code (F.A.C.).

A.4. Forms and Application Procedures. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C., and follow the application procedures in Chapter 62-4, F.A.C.
[Rule 62-210.900, F.A.C.]

A.5. Modifications. The permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change.
[Chapters 62-210 and 62-212, F.A.C.]

A.6. New or Additional Conditions. For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.
[Rule 62-4.080, F.A.C.]

A.7. Permit Extension. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit.
[Rule 62-4.080, F.A.C.]

APPLICABLE STANDARDS AND REGULATIONS

A.8. Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S., and Florida Administrative Code Chapters 62-4, 62-103, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297.

A.9. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations.
[Rule 62-210.300, F.A.C.]

A.10. The facility is subject to all of the requirements specified in Title V Air Operation Permit Renewal No. 0570039-017-AV.

A.10.1. An application for a Title V Air Operation Permit Revision, pursuant to Chapter 62-213, F.A.C., must be submitted to the Department's Bureau of Air Regulation to incorporate the specific conditions of this Air Construction Permit.
[Chapter 62-213, F.A.C.]

GENERAL OPERATION REQUIREMENTS

A.11. Unconfined Particulate Emissions. During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary.
[Rule 62-296.320(4)(c)., F.A.C.]

A.12. Plant Operation – Problems. If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the Environmental Protection Commission of Hillsborough County as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit and the regulations.
[Rule 62-4.130, F.A.C.]

A.13. Operating Procedures. Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment.
[Rule 62-4.070(3), F.A.C.]

A.14. Circumvention. The owner or operator shall not circumvent the air pollution control equipment nor operate the SCR equipment in such a manner which would violate allowable emission rates stated herein, notwithstanding the conditions provided in **A.15.1.**
[Rule 62-210.650, F.A.C.]

CONTROL TECHNOLOGY

A.15. The permittee shall install selective catalytic reduction (SCR) systems for nitrogen oxides (NO_X) control on the facility's Units No. 1 and 2 solid fuel-fired boilers.
[Applicant Request and EPA Consent Decree (U.S. vs. TEC) dated February 29, 2000, amended October 4, 2000, and FDEP Consent Final Judgment (DEP vs. TEC) dated December 6, 1999.]

SCR OPERATION

A.15.1 The permittee shall operate the SCR system in accordance with the SCR system supplier's Operations and Maintenance Manual recommendations, including operating the SCR between minimum and maximum operating temperatures.
[Rule 62-4.070(3), F.A.C.]

A.15.2. The partial SCR maintenance bypass duct is normally closed except during maintenance periods.
[Rule 62-4.070(3), F.A.C.]

A.15.3. Abnormal events: "Abnormal events" are defined as an unanticipated interruption, malfunction, or failure of the pipeline or associated equipment utilized to supply ammonia to the Big Bend Station for use in the operation of the selective catalytic reduction control system. Excess emissions occurring from operation of the boilers during an abnormal event are authorized provided that best operational practices are employed to minimize the amount and duration of the emissions during an abnormal event.
[Rule 62-4.070(3), F.A.C.]

EMISSION LIMITS AND STANDARDS

A.16. After April 30, 2010, NO_X emissions (reported as NO_2) from Unit No. 1 when combusting solid fuel, shall not exceed 0.12 lb NO_x/million Btu heat input on a heat input weighted 30 boiler operating day rolling average basis. After April 30, 2009, NO_X emissions (reported as NO_2) from Unit No. 2 when combusting solid fuel, shall not exceed 0.12 lb NO_x/million Btu heat input on a heat input weighted 30 boiler operating day rolling average basis. These emission limits are based on the definition of "emission rate" so that an equation is used that divides total pounds of NO_x by total heat input in each 30-day period to reach a 30-day rolling average.
[Applicant Request and EPA Consent Decree (U.S. vs. TEC) dated February 29, 2000, amended October 4, 2000, and FDEP Consent Final Judgment (DEP vs. TEC) dated December 6, 1999; E-mail memorandum from EPA received on September 15, 2005.; and Rule 62-4.070(3), F.A.C.]
{Permitting Note: Limits in this condition are sufficient to also comply with requirements of: Rule 62-204.800(7)(b)2., F.A.C.; 40 CFR 60.44a(a); 40 CFR 60.4a(c); and PSD-FL-040]

A.17. Ammonia slip, measured at the stack downstream of all emissions control systems, shall not exceed 10 parts per million by volume (ppmv). Annual testing of ammonia slip shall be conducted, and corrective measures taken if measured values exceed 5 ppmv.
[Applicant request; and Rule 62-4.070(3), F.A.C.]

COMPLIANCE DETERMINATION

A.18. Nitrogen oxides emissions shall be continuously monitored to confirm compliance, using the Unit's existing continuous emissions monitoring system (CEMS). Compliance is determined by calculating the heat input weighted average of all hourly emission rates for NO_X for the 30 successive boiler operating days, except for data obtained during startup, shutdown, malfunction, or abnormal events.
[Rule 62-204.800(7)(b)2., F.A.C.; 40 CFR 60.46a(g); 0570039-017-AV; and Rule 62-4.070(3), F.A.C.]

A.19. Compliance with the ammonia (NH_3) slip limit shall be determined using EPA conditional test method (CTM-027), EPA method 320, or other methods approved by the Department.
[Rule 62-4.070(3), F.A.C.]

A.20. Compliance with the emission limiting standards specified in this Air Construction Permit shall be determined by April 30, 2010 for Unit No. 1, and by April 30, 2009 for Unit No. 2, and annually thereafter, using the appropriate specific conditions of the facility's existing Title V Air Operations Permit No. 0570039-017-AV, by using the appropriate EPA reference test methods, or Department test methods.
[0570039-017-AV; and Rules 62-204.220 and 62-4.070(3), F.A.C.]

A.21. Compliance with the heat input weighted 30-day rolling average NO_X emission limit of 0.12 lb NO_x/mmBtu shall be demonstrated using CEMS data beginning May 31, 2010 (or 30 boiler operating days after May 1, 2010), for Unit No. 1, and beginning May 31, 2009 (or 30 boiler operating days after May 1, 2009), for Unit No. 2, and every 30 boiler operating days thereafter.
[Rule 62-4.070(3), F.A.C.]

A.22. Test Results. Compliance test results shall be submitted to the Environmental Protection Commission of Hillsborough County and the Department no later than 45 days after completion of the last test run.
[Rule 62-297.310(8), F.A.C.]

NOTIFICATION, REPORTING, AND RECORDKEEPING

A.23. Emission Compliance Stack Test Reports. A test report indicating the results of the required compliance tests shall be filed as per Specific Condition **A.22.** The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the compliance authority to determine if the test was properly conducted and if the test results were properly computed.
[Rule 62-297.310(8), F.A.C.]

COMPLIANCE ASSURANCE

A.24. Compliance Assurance Monitoring (CAM). The permittee shall evaluate the applicability of CAM to Units No. 1 and 2, and, if applicable, submit a CAM plan as a revision to the facility's current Title V air operation permit.
[40 CFR 64; and Rule 62-204.800, F.A.C.]

or on the front if space permits.

1. Article Addressed to:

Ms. Karen Sheffield, General Manager
Big Bend Station
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

FEB – 8 2005

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
(Transfer from service label) 7000 1670 0013 3110 0031

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

Ms. Karen Sheffield, General Manager
Big Bend Station
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

PS Form 3800, May 2000 See Reverse for Instructions

7000 1670 0013 3110 0031

TAMPA ELECTRIC

December 28, 2005

Mr. Tom Cascio,
Florida Department of
Environmental Protection
111 South Magnolia Drive, Suite 4
Tallahassee, FL 32301

Via FedEx
Airbill No. 7913 2053 4955

Re: Tampa Electric Company
Big Bend Station
Consent Decree
Civil Action No. 99-2524 CIV-T-23F
Air Construction Permit Application for
Unit 1 Selective Catalytic Reduction (SCR) Project
0570039-024-AC

Dear Mr. Cascio,

Tampa Electric Company (TEC) requests an air construction permit to install a selective catalytic reduction (SCR) system for nitrogen oxides (NO_x) control on its Big Bend Station Unit 1 coal-fired boiler. TEC entered into the agreements with the Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP) concerning the installation of additional air pollution control systems at Big Bend Station. These agreements (EPA Consent Decree and FDEP Consent Final Judgment) included requirements to install additional air pollution control systems for NO_x control on Unit 1. In response to these requirements, TEC determined that the installation of low NO_x burners (LNB) and an SCR system are the technologies to be utilized to reduce the NO_x emissions on Big Bend Unit 1 to satisfy the requirements of the agreements.

Additionally, TEC reviewed the impacts with the operation of the SCR, associated combustion controls and associated systems (sulfur trioxide control) to determine the affects on the coal combustion byproducts and found that the fly ash would have limited marketability due to high ammonia content and carbon content. Therefore, a large portion of the fly ash could potentially need to be disposed of in a landfill. TEC researched this issue and found that several other companies mitigate the SCR impacts on fly ash by using carbon burnout (CBO) technology to reduce the carbon content. TEC has evaluated this technology and determined it to be feasible at Big Bend Station. A separate air construction permit for the CBO technology was submitted.

As stated in a letter sent to the FDEP dated April 4, 2003 and as mentioned in the meeting between TEC and FDEP on May 31, 2005, TEC reviewed the effects of installing the future NO_x

control and SO_3 control systems and determined that there is a potential for increase in particulate matter (PM) and opacity. Therefore, a request for higher permit limits may be submitted in the future.

Please find the enclosed air construction permit application for Big Bend Station's Unit 1 SCR.

TEC appreciates the cooperation of the Department in this matter. If you have any questions or comments, please contact Shelly Castro or me at (813) 228-4408.

Sincerely,

for

Byron T. Burrows
Manager - Air Programs
Environmental, Health & Safety

EHS/rlk/SSC

Enclosure

c/enc: Ms. Alice Harman, EPCHC
Mr. Jason Waters, FDEP SW
Mr. David Lloyd, EPA
Mr. Scott Sheplak, FDEP
Ms. Trina Vielhauer, FDEP
Mr. Sterlin Woodard, EPCHC

UNIT 1 NO_x EMISSIONS CONTROL SYSTEM RETROFIT PROJECT

APPLICATION FOR AIR CONSTRUCTION PERMIT

Prepared for:

TAMPA ELECTRIC
Tampa, Florida

Prepared by:

Environmental Consulting & Technology, Inc.
3701 Northwest 98th Street
Gainesville, Florida 32606

ECT No. 040923-0400

December 2005

INTRODUCTION

Tampa Electric Company (TEC) requests an air construction permit to add a selective catalytic reduction (SCR) system for nitrogen oxides (NO_x) control to its Big Bend Station Unit 1 coal-fired boiler. TEC entered into agreements with the U.S. Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP) which embody the resolutions between the agencies and TEC stemming from disputed issues surrounding TEC's maintenance activities to its Big Bend and Gannon Stations that were alleged to be in violation of the EPA's new source review rules and new source performance standards which are currently codified in Title I of the Clean Air Act Amendment. These settlements and amendments are collectively known as the *Agreements*. These Agreements include requirements to install additional systems for NO_x control on Unit 1. In response to these requirements, TEC determined that the installation of a SCR system is required to reduce Big Bend Station Unit 1 NO_x emissions.

Figure 1 shows the location of the Big Bend Unit 1 SCR, which will be installed downstream of the economizer and upstream of the air preheater. The SCR reactor is designed as a three-plus-one catalyst configuration. The fourth catalyst management layer, designed to maximize the residual catalyst life and lower operating costs, will be initially empty and will be installed as the initial three catalyst layers lose activation.

TEC is currently evaluating available options with respect to ammonia type and supply, and will notify FDEP when TEC's plans are finalized. Current plans include the use of anhydrous ammonia supplied by pipeline without onsite storage. TEC will not have any control over the operation of the anhydrous ammonia pipeline. Should there be an interruption in the supply of anhydrous ammonia through this pipeline, TEC will be unable to continue SCR ammonia injection and will notify FDEP in accordance with the requirements of Rule 62-4.130, *Plant Operation – Problems*. SCR tuning (i.e., adjustment of the ammonia injection grid) will be performed during the initial commissioning of the system and periodically thereafter. Consistent with the recently issued air construction permit for

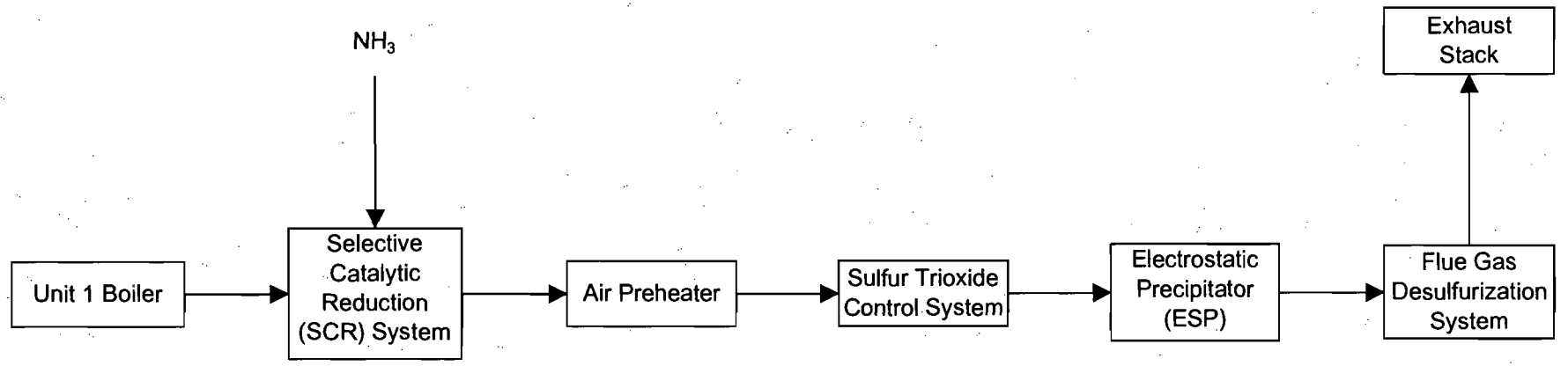


FIGURE 1.

SIMPLIFIED FLOW DIAGRAM OF BIG BEND UNIT 1 CONTROL SYSTEMS

Source: ECT, 2005.

ECT
Environmental Consulting & Technology, Inc.

Unit 3 SCR, TEC requests that the Unit 1 SCR air construction permit include a condition authorizing excess emissions in the event there is an unanticipated interruption, malfunction, or failure of the ammonia pipeline and associated equipment; reference Condition A.15.3 of Unit 3 SCR Air Construction Permit No. 0570039-022-AC.

TEC proposes to install a system immediately downstream of the Unit 1 air preheater to control the inherent increases of sulfur trioxide (SO_3) that result from the use of vanadium-containing catalyst in SCR control systems.

TEC is proposing that ammonia slip, measured at the stack downstream of all emission control systems, be targeted at 5 parts per million by volume (ppmv). TEC is also proposing to conduct annual testing of ammonia slip and perform corrective measures if the target level is being exceeded.

The minimum operating temperature of the SCR catalyst is approximately 625 degrees. Extended operation below this temperature is not recommended by the catalyst manufacturer since it will likely damage the catalyst, create pluggage in the air preheater, and will void the manufacturer's guarantees/warrantees. For these reasons, ammonia typically will not be injected into the SCR system during low exhaust temperature events. This will include events such as boiler startups and shutdowns, equipment malfunctions, operating and maintenance requirements such as condenser cleanings, and various other low load conditions. The Unit 1 SCR control system will not include a bypass. Consistent with the recently issued air construction permit for Unit 3 SCR, TEC requests that a permit condition be included in the Unit 1 SCR air construction permit authorizing excess emissions the cessation of SCR ammonia injection during periods of low loads and exhaust temperatures in accordance with the SCR catalyst manufacturer recommended operating procedures; reference Condition A.15.1 of Unit 3 SCR Air Construction Permit No. 0570039-022-AC.

Big Bend Unit 1 SCR will be designed to meet a heat input weighted average NO_x emission limit of 0.12 pound per million British thermal unit (lb/MMBtu) based on a 30-day rolling average inclusive of low load operations and exclusive of startup, shutdown, mal-

function, or abnormal events. NO_x will be continuously monitored using the existing Unit 1 NO_x continuous emissions monitoring system to confirm compliance. The SCR system does not add significant mass flow to the stack other than the addition of dilution air for ammonia injection. The stack temperature will be unaffected.

Major construction activities for the Big Bend Station Unit 1 SCR control system are scheduled to begin August 1, 2006, and be completed by May 1, 2010.

FDEP's Application for Air Permit, Long Form, follows this introduction. Attachment A provides a process flow diagram of Unit 1 SCR. A proposed air construction permit is provided in Attachment B.

Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit–Use this form to apply for an air construction permit for a proposed project:

- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:

- an initial federally enforceable state air operation permit (FESOP); or
- an initial/revised/renewal Title V air operation permit.

Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **Tampa Electric Company**	
2. Site Name: **Big Bend Station**	
3. Facility Identification Number: **0570039**	
4. Facility Location...: Street Address or Other Locator: **13031 Wyandotte Road** City: **Apollo Beach** County: **Hillsborough** Zip Code: **33572**	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: **Shelly Castro, Engineer – Air Programs**
2. Application Contact Mailing Address... Organization/Firm: **Tampa Electric Company** Street Address: **P. O. Box 111** City: **Tampa** State: **FL** Zip Code: **33601**
3. Application Contact Telephone Numbers... Telephone: **(813) 228-4408** ext. Fax: **(813) 228-1308**
4. Application Contact Email Address: **sscastro@tecoenergy.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Project Number(s):	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

APPLICATION INFORMATION

Purpose of Application

This application for air permit is submitted to obtain: (Check one)

Air Construction Permit

☒ Air construction permit.

Air Operation Permit

☐ Initial Title V air operation permit.
☐ Title V air operation permit revision.
☐ Title V air operation permit renewal.
☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

☐ Air construction permit and Title V permit revision, incorporating the proposed project.
☐ Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

☐ I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

Project consists of the addition of selective catalytic reduction (SCR) to emissions unit (E.U.) 001. This NO_x control system is being installed in accordance with agreements between Tampa Electric Company (TEC) and the U.S. Environmental Protection Agency (EPA Consent Decree) and the Florida Department of Environmental Protection (FDEP Consent Final Judgment).

As requested by FDEP, this application constitutes TEC's request for an air construction permit for the Big Bend Station Unit 1 SCR NO_x pollution control project.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
001	Unit No. 1 Steam Generator	N/A	N/A

Application Processing Fee

Check one: ☐ Attached - Amount: $_____ ☒ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name:
   Karen Sheffield, General Manager, Big Bend Station

2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **Tampa Electric Company**
   Street Address: **P.O. Box 111**
   City: **Tampa** State: **Florida** Zip Code: **33601-0111**

3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **813-228-4111** ext. Fax: **813-228-1308**

4. Owner/Authorized Representative Email Address: **kasheffield@tecoenergy.com**

5. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.

Karen Sheffield
Signature

12/28/05
Date

APPLICATION INFORMATION

Application Responsible Official Certification **N/A**

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name:

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):
   - ☐ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.
   - ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
   - ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
   - ☐ The designated representative at an Acid Rain source.

3. Application Responsible Official Mailing Address...
   Organization/Firm:
   Street Address:
   City: State: Zip Code:

4. Application Responsible Official Telephone Numbers...
   Telephone: ext. Fax:

5. Application Responsible Official Email Address:

6. Application Responsible Official Certification:

I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

_____ _____

Signature Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **Thomas W. Davis**
   Registration Number: **36777**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Environmental Consulting & Technology, Inc.**
   Street Address: **3701 Northwest 98th Street**
   City: **Gainesville** State: **FL** Zip Code: **32606-5004**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 332-0444** ext. Fax: **(352) 332-6722**
4. Professional Engineer Email Address: **tdavis@ectinc.com**
5. Professional Engineer Statement:

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

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

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

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.

(4) If the purpose of this application is to obtain an air construction permit (check here ☒, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here ☐, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here ☐, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature (seal) Date: 12/22/05

* Attach any exception to certification statement.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone **17** East (km) **361.9** North (km) **3,075.0**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **49**	6. Facility SIC(s): **4911**
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: **Karen Zwolak, Senior Environmental Consultant**
2. Facility Contact Mailing Address... Organization/Firm: **Tampa Electric Company** Street Address: **P. O. Box 111** City: **Tampa** State: **FL** Zip Code: **33601**
3. Facility Contact Telephone Numbers: Telephone: **(813) 228-4111** ext. Fax: **(813) 228-1308**
4. Facility Contact Email Address: **kozwolak@tecoenergy.com**

Facility Primary Responsible Official **N/A**

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: ( ) - ext. Fax: ( ) -
4. Facility Primary Responsible Official Email Address:

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.	☐ Small Business Stationary Source	☐ Unknown
2.	☐ Synthetic Non-Title V Source	
3.	☒ Title V Source	
4.	☒ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5.	☐ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6.	☒ Major Source of Hazardous Air Pollutants (HAPs)	
7.	☐ Synthetic Minor Source of HAPs	
8.	☒ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9.	☐ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10.	☐ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11.	☐ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment:		

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**
VOC	**A**	**N**
H106 (Hydrogen Chloride)	**A**	**N**
H107 (Hydrogen Fluoride)	**A**	**N**
H133 (Nickel Compounds)	**A**	**N**
HAPS (Total)	**A**	**N**

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID No.s Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap
SO2	**N**	**001 – 004**		**71,810**	**ESCPSD**
PM/PM10	**N**	**001 – 004**		**2,767**	**ESCPSD**

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

Additional SO_2 caps for Units 001 – 003 are 31.5 ton/hr (3-hour average), and 25 ton/hr (24-hour block average). In addition, Units 001 and 002 are limited to 16.5 ton/hr SO_2 (24-hour block average).

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date: **Oct. 2004**
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Att. A** ☐ Previously Submitted, Date:
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date: **Oct. 2004**

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location:
   ☐ Attached, Document ID: ☒ Previously Submitted, Date: **June 30, 2004**
2. Description of Proposed Construction or Modification:
   ☒ Attached, Document ID: **See comment below** ☐ Not Applicable
3. Rule Applicability Analysis:
   ☐ Attached, Document ID: ☒ Previously Submitted, Date: **June 30, 2004**
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.):
   ☐ Attached, Document ID: ☒ Previously Submitted, Date: **June 30, 2004**
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.):
   ☐ Attached, Document ID: ☒ Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.):
    ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements for FESOP Applications **N/A**

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID: ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications **N/A**

See comment below

1. List of Insignificant Activities (Required for initial/renewal applications only):
   ☐ Attached, Document ID: _____ ☐ Not Applicable
2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):
   ☐ Attached, Document ID: _____
   ☐ Not Applicable
3. Compliance Report and Plan (Required for all initial/revision/renewal applications):
   ☐ Attached, Document ID: _____
   Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.
4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):
   ☐ Attached, Document ID:_____
   ☐ Equipment/Activities On site but Not Required to be Individually Listed
   ☐ Not Applicable
5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) :
   ☐ Attached, Document ID:_____ ☐ Not Applicable
6. Requested Changes to Current Title V Air Operation Permit:
   ☐ Attached, Document ID:_____ ☐ Not Applicable

Additional Requirements Comment

A description of the proposed addition of selective catalytic reduction NO_x control system to Unit 1 is provided in the Introduction and also in Application Comment section on Page 2 of this application.

EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

☒ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

☐ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

☐ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:
Riley Stoker wet bottom fossil fuel steam boiler

3. Emissions Unit Identification Number: **001**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A			**49**	☒ Yes ☐ No

9. Package Unit:
Manufacturer: **Riley Stoker** Model Number:

10. Generator Nameplate Rating: **445 MW**

11. Emissions Unit Comment:

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Low-NO_x Burners (LNB) - NO_x
[Control Device Code 205]

Selective Catalytic Reduction (SCR) - NO_x
[Control Device Code 139]

Miscellaneous Control Devices - SO_3
[Control Device Code 099]

Electrostatic Precipitator (ESP) - PM/PM_{10}
[Control Device Code 010]

Wet Limestone Injection Flue Gas Desulfurization (FGD) - SO_2 & PM/PM_{10}
[Control Device Code 042] (when firing coal/petroleum coke blends and coal residual)

2. Control Device or Method Code(s): **205, 139, 099, 010, 042**

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: **445 MW**	
3. Maximum Heat Input Rate: **4,037 million Btu/hr**	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24** hours/day **52** weeks/year	 **7** days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment:	

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: **CS0W1**	2. Emission Point Type Code: **2**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **N/A**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **490 feet**	7. Exit Diameter: **24 feet**
8. Exit Temperature: **127 °F**	9. Actual Volumetric Flow Rate: **1,231,324 acfm**	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
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: **Stack data is for Unit 1, scrubbed. In Units 1 and 2 unscrubbed mode, the exhaust flows from both Units 1 and 2 discharge to dry stack CS001.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment **1** of **5**

1. Segment Description (Process/Fuel Type): **Coal burned in Unit No. 1.**		
2. Source Classification Code (SCC): **1-01-002-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **183.5**	5. Maximum Annual Rate: **1,607,460**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **5.4**	8. Maximum % Ash: **13.3**	9. Million Btu per SCC Unit: **22**
10. Segment Comment: **Btu per SCC unit value (Field 9) based on a nominal coal heat content of 11,000 Btu/lb. Maximum % sulfur (Field 7) is estimated based on 2005 purchases.**		

Segment Description and Rate: Segment **2** of **5**

1. Segment Description (Process/Fuel Type): **No. 2 fuel oil burned in Unit No. 1.**		
2. Source Classification Code (SCC): **1-01-005-01**	3. SCC Units: **1,000 Gallons Burned**	
4. Maximum Hourly Rate: **N/A**	5. Maximum Annual Rate: **N/A**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.5**	8. Maximum % Ash: **0.1**	9. Million Btu per SCC Unit: **139**
10. Segment Comment: **No. 2 fuel oil burned only during startup, shutdown, flame stabilization, and during the start of a mill.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 3 of 5

1. Segment Description (Process/Fuel Type): **Petroleum coke burned in Unit No. 1.**		
2. Source Classification Code (SCC): **1-01-008-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **36.7**	5. Maximum Annual Rate: **321,492**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **7.0**	8. Maximum % Ash: **0.8**	9. Million Btu per SCC Unit: **28**
10. Segment Comment: **Maximum petcoke rates (Fields 4 and 5) based on 20% of coal rates.**		

Segment Description and Rate: Segment 4 of 5

1. Segment Description (Process/Fuel Type): **Raw coal residual burned in Unit No. 1.**		
2. Source Classification Code (SCC): **1-01-002-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: *	5. Maximum Annual Rate: **73,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **1.43**	8. Maximum % Ash: **57.7**	9. Million Btu per SCC Unit: **6.1**
10. Segment Comment: ***Firing of raw coal residual is limited to 200 tons per day total for Units 1 through 4. Maximum annual coal residual rate (Field 5) is the total for Units 1 through 4.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 5 of 5

1. Segment Description (Process/Fuel Type): **Beneficiated coal residual burned in Unit No. 1.**		
2. Source Classification Code (SCC): **1-01-002-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: *	5. Maximum Annual Rate: **182,500**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **1.5**	8. Maximum % Ash: **35.4**	9. Million Btu per SCC Unit: **17.95**
10. Segment Comment: ***Firing of beneficiated coal residual is limited to 500 tons per day total for Units 1 through 4. Maximum annual coal residual rate (Field 5) is the total for Units 1 through 4. Sulfur, ash, and heat contents are on a dry basis.**		

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 NO_x Burners)**	**139 [SCR])**	**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- 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: **NO_x**	2. Total Percent Efficiency of Control: **80 percent**
3. Potential Emissions: **484.4** lb/hour **2,122** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year	
6. Emission Factor: **N/A** Reference:	7. Emissions Method Code: **0**

8. Calculation of Emissions:

$$\frac{0.12\ lb\ NO_x}{MMBtu} \times \frac{4{,}037\ MMBtu}{hr} = 484.4\ lb\ \frac{NO_x}{hr}$$

$$484.4\ lb\ \frac{NO_x}{hr} \times 8{,}760\ \frac{hr}{yr} \times \frac{ton}{2{,}000} = 2{,}122\ \frac{ton}{yr}$$

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

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 1 of 1

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions: **May 1, 2010**
3. Allowable Emissions and Units: **0.12 lb/MMBtu, heat input weighted 30-day rolling average**	4. Equivalent Allowable Emissions: **484.4** lb/hour **2,122** tons/year
5. Method of Compliance: **NO_x CEMS**	
6. Allowable Emissions Comment (Description of Operating Method): **Basis for allowable emissions is the EPA Consent Decree and the FDEP Consent Final Judgment**	

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):	

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:	2. Total Percent Efficiency of Control:
3. Potential Emissions: lb/hour tons/year	4. Synthetically Limited? ☐ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: Reference:	7. Emissions Method Code:
8. Calculation of Emissions:	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **Other than NO_x, TEC is not requesting any revisions to currently authorized emission standards as specified in FINAL Title V Permit No. 0570039-021-AV. The information requested by Section F1 regarding Unit 1 allowable emissions for pollutants other than NO_x can be found in FINAL Title V Permit No. 0570039-021-AV.**	

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): **Other than NO_x, TEC is not requesting any revisions to currently authorized emission standards as specified in FINAL Title V Permit No. 0570039-021-AV. The information requested by Section F2 regarding allowable emissions for pollutants other than NO_x for Unit No. 1 can be found in FINAL Title V Permit No. 0570039-021-AV.**	

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):	

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation ___ of

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment: **TEC is not requesting any revisions to currently authorized visible emission standards as specified in FINAL Title V Permit No. 0570039-021-AV. The information requested by Section G regarding visible emissions for Unit No. 1 can be found in FINAL Title V Permit No. 0570039-021-AV.**	

Visible Emissions Limitation: Visible Emissions Limitation ___ of

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ___ of

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Information regarding Unit No. 1 CEMS remains unchanged from the data previously provided to the Department.**	

Continuous Monitoring System: Continuous Monitor ___ of

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **A** ☐ Previously Submitted, Date

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ___ ☒ Previously Submitted, Date **June 2004**

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Intro.** ☐ Previously Submitted, Date

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ___ ☒ Previously Submitted, Date **June 2004**
   ☐ Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ___ ☒ Previously Submitted, Date **June 2004**
   ☐ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID:
   Test Date(s)/Pollutant(s) Tested:

   ☐ Previously Submitted, Date:
   Test Date(s)/Pollutant(s) Tested:

   ☐ To be Submitted, Date (if known):_____
   Test Date(s)/Pollutant(s) Tested:

   ☒ Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☐ Attached, Document ID: ___ ☒ Not Applicable

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: ___ ☒ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: ___ ☒ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: ___ ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications **N/A**

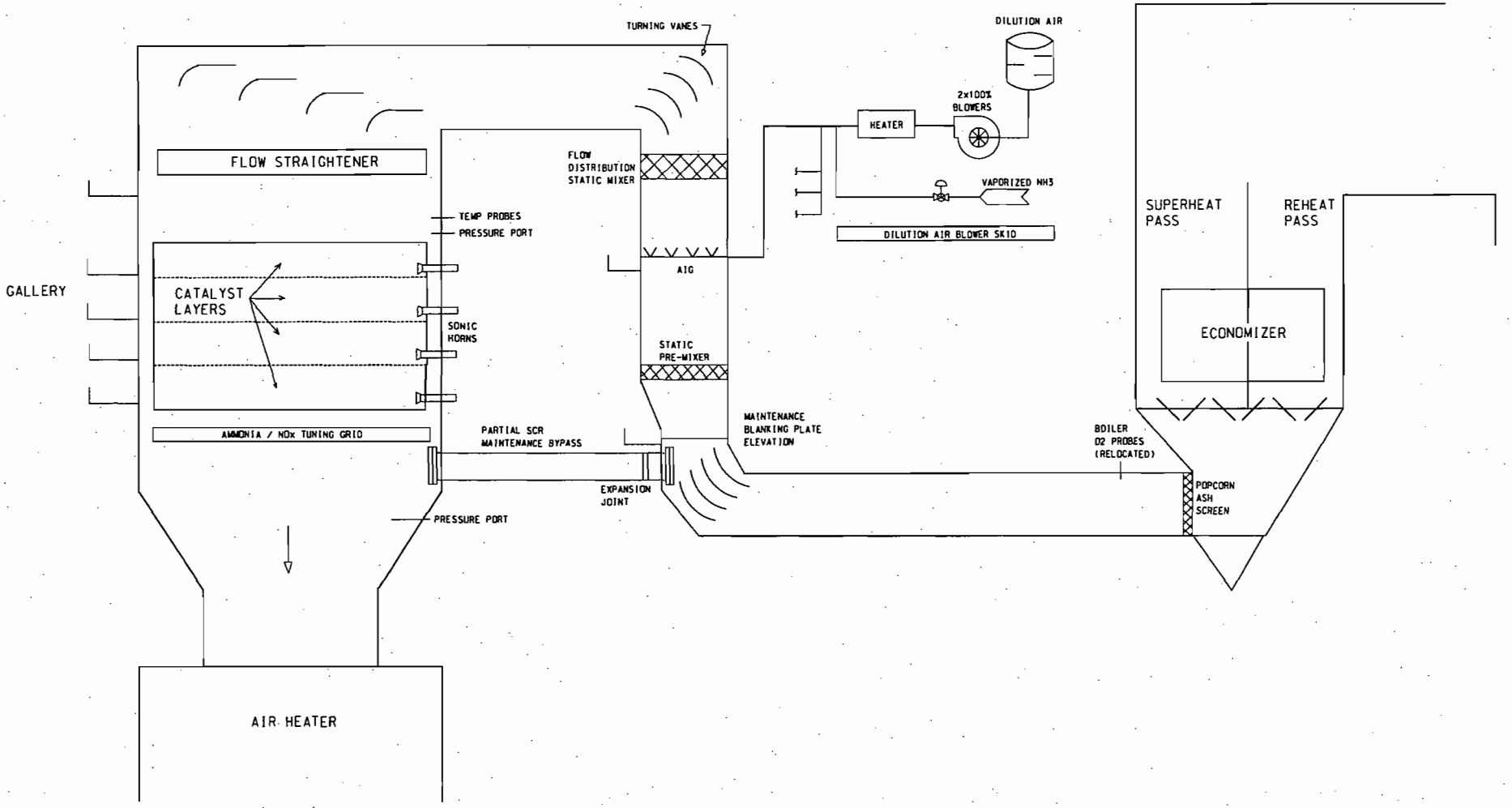
1. Identification of Applicable Requirements
   ☐ Attached, Document ID: ___ ☐ Previously Submitted, Date
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: ___ ☐ Previously Submitted, Date
3. Alternative Methods of Operation
   ☐ Attached, Document ID: ___ ☐ Previously Submitted, Date
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: ___ ☐ Not Applicable
5. Acid Rain Part Application
   - ☐ Certificate of Representation (EPA Form No. 7610-1)
     - ☐ Copy Attached, Document ID:
   - ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Not Applicable

Additional Requirements Comment

ATTACHMENT A

PROCESS FLOW DIAGRAM

ECT
Environmental Consulting & Technology, Inc.



CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S /INSTALLER'S PERSONNEL (OR THAT OF ITS SUBCONTRACTOR(S)) PERFORMING THE WORK

TECO TAMPA ELECTRIC

FILE T.D.: 882 SCR.DGN

DRAWING RELEASE RECORD

REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE	FILM

DRAWING RELEASE RECORD

REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE	FILM
A	12-22-2005	A. MASSA	K. HOPKINS	D. ANDERSON	FOR INFORMATION.	

SCALE: NONE

PROJECT NUMBER: 11764-002

SCR PROJECT
FLOW DIAGRAM

UNITS 1 & 2
BIG BEND POWER STATION
TAMPA ELECTRIC

Sargent & Lundy LLC
55 E. MONROE STREET
CHICAGO, ILLINOIS 60603-5780
CERTIFICATION OF AUTHORIZATION NO. 0138

DRAWING NO.: MSK12092005

REV.: A

ATTACHMENT B

PROPOSED AIR CONSTRUCTION PERMIT

DRAFT AIR CONSTRUCTION PERMIT NO. 0570039-024-AC

PERMITTEE

Tampa Electric Company (TEC)	File/Permit No.	0570039-024-AC
Big Bend Station	Facility ID:	0570039
Post Office Box 111	Project:	NO_X Reduction (SCR)
Tampa, Florida 33601-0111		Steam Generator Unit 1
	SIC No.	4911
Authorized Representative:	Expires:	*December 1, 2010*
Karen Sheffield, General Manager	County	Hillsborough

PROJECT AND LOCATION

This is an Air Construction Permit for the installation of a selective catalytic reduction system for nitrogen oxides control on the solid fuel-fired Steam Generator Unit No. 1. The reductions are part of an emissions reduction program required by a Consent Final Judgment with the Department and a Consent Decree with the United States Environmental Protection Agency. The air construction permit will also establish these specific projects as applicable Title V Operation Permit conditions.

The Tampa Electric Company (TEC) Big Bend Station is located at Wyandotte Road, Apollo Beach, Hillsborough County. UTM Coordinates are Zone 17, 361.9 km East and 3075.0 km North; Latitude: 27° 47' 36" North and Longitude: 82° 24' 11" West.

STATEMENT OF BASIS

This Air Construction Permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The above named permittee is authorized to install the SCR system at the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

THE ATTACHED APPENDIX IS MADE A PART OF THIS PERMIT:

Appendix GC Construction Permit General Conditions

Michael G. Cooke, Director
Division of Air Resource Management

FACILITY DESCRIPTION

This facility consists primarily of four existing fossil fuel steam generators (boilers) and three simple-cycle combustion turbines. Emissions from all steam generators are controlled by electrostatic precipitators (ESPs), and flue gas desulfurization (FGD) systems. There are ongoing nitrogen oxides (NO_X) control projects pursuant to a Consent Final Judgment (CFJ) between TEC and the Department and a Consent Decree (CD) between TEC and the United States Environmental Protection Agency (EPA).

EMISSIONS UNITS

This permit addresses the installation of an ammonia injection system and catalyst at the following Unit:

Emission Unit No.	System	Emission Unit Description
001	Power Generation	445 MW Fossil Fuel Steam Generator

The proposed project is called selective catalytic reduction (SCR). A recent NO_X control project on Unit 1 includes installation of new coal burners suitable for low NO_X operation.

REGULATORY CLASSIFICATION

The facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), nitrogen oxides (NO_X), carbon monoxide (CO), or volatile organic compounds (VOC), exceed 100 tons per year (TPY).

The addition of SCR to Unit No. 1 reduces NO_X emissions. It has been determined by the Department that the project is classified as a Pollution Control Project, as defined in 40 CFR 52.21(b)32, and meets the requirements of Rule 62-212.400(2)(a)2., F.A.C., and 40 CFR 52.21(b)(2)(iii)(h). Therefore, the project is not a modification under Department regulations.

PERMIT SCHEDULE

- Month Day, 2006 Notice of Intent to Issue Permit published.
- Month Day, 2006 Intent to Issue Permit distributed.
- February 15, 2006 Application deemed complete.
- December 28, 2005 Application received.

RELEVANT DOCUMENTS

The documents listed below are the basis of the permit. They are specifically related to this permitting action, but not all are incorporated into this permit. These documents are on file with the Department.

- Application received on December 28, 2005.
- The Department's Technical Evaluation and Preliminary Determination, issued concurrently with this draft permit.
- EPA Consent Decree (U.S. vs. TEC) dated February 29, 2000, amended October 4, 2000.
- FDEP Consent Final Judgment (DEP vs. TEC) dated December 6, 1999.
- Title V Air Operation Permit Renewal No. 0570039-017-AV.
- Tampa Electric Submittals for PSC Docket 040750-EI.
- E-mail memorandum from EPA received on September 15, 2005.

PROJECT DESCRIPTION

TEC will install an SCR system for NO_X control on the facility's Unit No. 1 coal-fired boiler. This emissions unit is a Riley Stoker Corporation "wet" bottom utility boiler, with a generator nameplate rating of 445 megawatts (MW). The basic boiler startup and shutdown procedures will not need to be altered with the addition of the SCR (i.e., the existing Unit No. 1 boiler ramp rate is adequate for the SCR catalyst). The project consists of:

- Installation of a "three plus one" SCR reactor downstream of the economizer and upstream of the air preheater.
- Installation of an ammonia storage, supply, and injection system the details of which are still under development.
- SCR tuning (i.e., adjustment of the ammonia injection grid) during the initial commissioning of the system and periodically thereafter.
- Installation of an ammonia injection sulfur trioxide (SO_3) control system downstream of the Unit No. 1 air preheater.

The project is much more involved than suggested by the brief description above. Following are additional details of the work likely to occur in association with the SCR installation:

- Demolition of existing flue gas ductwork as necessary to tie-in the SCR system
- Demolition of existing structural steel, modification and reinforcement of existing steel supports for a new duct from the existing steel
- Economizer gas temperature control
- Gas ductwork from economizer outlet to the SCR inlet (includes hoppers, mixers and turning vanes)
- SCR reactor (includes equipment for catalyst management) and catalyst
- Gas ductwork between the SCR & air heater
- Foundations for ductwork and structural steel
- Structural modifications for construction cranes
- Ammonia or Urea to ammonia conversion system
- Air heater modifications
- Electrical modifications
- Relocation of existing equipment and utilities
- Mobilization/demobilization
- Equipment rental
- Engineering construction management
- Asbestos removal
- Boiler and ESP reinforcement
- New Induced Draft ("ID") fans and motors
- ID fan foundations and electrical
- New and modified ductwork
- Auxiliary power and controls modifications

PROJECT SCHEDULE

Emissions Unit ID Number	Estimated start date	Estimated completion date
001	August 1, 2006	May 1, 2010

ADMINISTRATIVE REQUIREMENTS

A.1. Regulating Agencies. All documents related to applications for permits to construct, operate or modify an emissions unit should be submitted to the Bureau of Air Regulation, Florida Department of Environmental Protection, at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, and phone number (850) 488-0114. All documents related to reports, tests, and notifications should be submitted to the Environmental Protection Commission of Hillsborough County, and copies of those submittals shall be sent to the Department of Environmental Protection, Southwest District Office.

Addresses and telephone numbers are:

Environmental Protection Commission of Hillsborough County
Roger P. Stewart Center
3629 Queen Palm Drive
Tampa, Florida 33619
Telephone: 813/627.2600; Fax: 813/627-2660

Department of Environmental Protection
Southwest District Office, Air Resources Section
3804 Coconut Palm Drive
Tampa, Florida 33619-1352
Telephone: 813/744-6100; Fax: 813/744-6084

A.2. General Conditions. The owner and operator is subject to, and shall operate under the attached General Permit Conditions **G.1.** through **G.15.** listed in Appendix GC of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes.
[Rule 62-4.160, F.A.C.]

A.3. Terminology. The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code (F.A.C.).

A.4. Forms and Application Procedures. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C., and follow the application procedures in Chapter 62-4, F.A.C.
[Rule 62-210.900, F.A.C.]

A.5. Modifications. The permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change. [Chapters 62-210 and 62-212, F.A.C.]

A.6. New or Additional Conditions. For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.
[Rule 62-4.080, F.A.C.]

A.7. Permit Extension. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit. [Rule 62-4.080, F.A.C.]

APPLICABLE STANDARDS AND REGULATIONS

A.8. Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S., and Florida Administrative Code Chapters 62-4, 62-103, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297.

A.9. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. [Rule 62-210.300, F.A.C.]

A.10. The facility is subject to all of the requirements specified in Title V Air Operation Permit Renewal No. 0570039-017-AV.

A.10.1. An application for a Title V Air Operation Permit Revision, pursuant to Chapter 62-213, F.A.C., must be submitted to the Department's Bureau of Air Regulation to incorporate the specific conditions of this Air Construction Permit. [Chapter 62-213, F.A.C.]

GENERAL OPERATION REQUIREMENTS

A.11. Unconfined Particulate Emissions. During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary. [Rule 62-296.320(4)(c)., F.A.C.]

A.12. Plant Operation – Problems. If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the Environmental Protection Commission of Hillsborough County as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit and the regulations. [Rule 62-4.130, F.A.C.]

A.13. Operating Procedures. Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment. [Rule 62-4.070(3), F.A.C.]

A.14. Circumvention. The owner or operator shall not circumvent the air pollution control equipment nor operate the SCR equipment in such a manner which would violate allowable emission rates stated herein, notwithstanding the conditions provided in A.15.1. [Rules 62-210.650, F.A.C.]

CONTROL TECHNOLOGY

A.15. The permittee shall install a selective catalytic reduction (SCR) system for nitrogen oxides (NO_X) control on the facility's Unit No. 1 solid fuel-fired boiler.
[Applicant Request and EPA Consent Decree (U.S. vs. TEC) dated February 29, 2000, amended October 4, 2000, and FDEP Consent Final Judgment (DEP vs. TEC) dated December 6, 1999.]

SCR OPERATION

A.15.1 The permittee shall operate the SCR system in accordance with the SCR system supplier's recommendations, including operating the SCR between minimum and maximum operating temperatures.

A.15.2. The partial SCR maintenance bypass duct is normally closed except during maintenance periods.

A.15.3 Abnormal events: "Abnormal events" are defined as an unanticipated interruption, malfunction, or failure of the pipeline or associated equipment utilized to supply ammonia to the Big Bend Station for use in the operation of the selective catalytic reduction control system. Excess emissions occurring from operation of the boilers during an abnormal event are authorized provided that best operational practices are employed to minimize the amount and duration of the emissions during an abnormal event.

EMISSION LIMITS AND STANDARDS

A.16. After April 30, 2010 NO_X emissions (reported as NO_2) from Unit No. 1 when combusting solid fuel, shall not exceed 0.12 lb NO_x/million Btu heat input on a heat input weighted 30 boiler operating day rolling average basis. These emission limits are based on the definition of "emission rate" so that an equation is used that divides total pounds of NO_x by total heat input in each 30-day period to reach a 30-day rolling average.

[Applicant Request and EPA Consent Decree (U.S. vs. TEC) dated February 29, 2000, amended October 4, 2000, and FDEP Consent Final Judgment (DEP vs. TEC) dated December 6, 1999; and E-mail memorandum from EPA received on September 15, 2005.]

{Permitting Note: Limits in this condition are sufficient to also comply with requirements of: Rule 62-204.800(7)(b)2., F.A.C.; 40 CFR 60.44a(a); 40 CFR 60.4a(c); and PSD-FL-040]

A.17. Ammonia slip, measured at the stack downstream of all emissions control systems, shall not exceed 10 parts per million by volume (ppmv). Annual testing of ammonia slip shall be conducted and corrective measures taken if measured values exceed 5 ppmv.

[Applicant request; and Rule 62-4.070(3), F.A.C.]

COMPLIANCE DETERMINATION

A.18. Nitrogen oxides emissions shall be continuously monitored to confirm compliance, using the Unit's existing continuous emissions monitoring system (CEMS). Compliance is determined by calculating the heat input weighted average of all hourly emission rates for NO_X for the 30 successive boiler operating days, except for data obtained during startup, shutdown, malfunction, or abnormal events.

[Rule 62-204.800(7)(b)2., F.A.C.; 40 CFR 60.46a(g), 0570039-017-AV]

A.19. Compliance with the ammonia (NH_3) slip limit shall be determined using EPA conditional test method (CTM-027), EPA method 320 or other methods approved by the Department. .[Rule 62-4.070 (3), F.A.C.]

A.20. Compliance with the emission limiting standards specified in this Air Construction Permit shall be determined by April 30, 2010, and annually thereafter, using the appropriate specific conditions of the facility's existing Title V Air Operations Permit No. 0570039-017-AV, by using the appropriate EPA reference test methods, or Department test methods.

[0570039-017-AV; and Rules 62-204.220 and 62-4.070 (3), F.A.C.]

A.21. Compliance with the heat input weighted 30 boiler operating day rolling average NO_X emission limit of 0.12 lb NO_x/mmBtu shall be demonstrated using CEMS data beginning May 31, 2010 (or 30 boiler operating days after May 1, 2010), and every 30 boiler operating days thereafter.

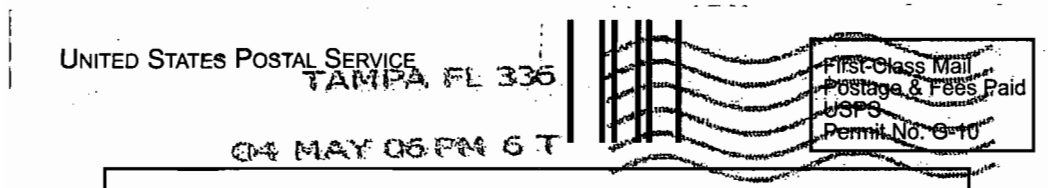
A.22. Test Results. Compliance test results shall be submitted to the Environmental Protection Commission of Hillsborough County and the Department no later than 45 days after completion of the last test run. [Rule 62-297.310(8), F.A.C.]

NOTIFICATION, REPORTING, AND RECORDKEEPING

A.23. Emission Compliance Stack Test Reports. A test report indicating the results of the required compliance tests shall be filed as per Specific Condition **A.22.** The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the compliance authority to determine if the test was properly conducted and if the test results were properly computed.
[Rule 62-297.310(8), F.A.C.]

COMPLIANCE ASSURANCE

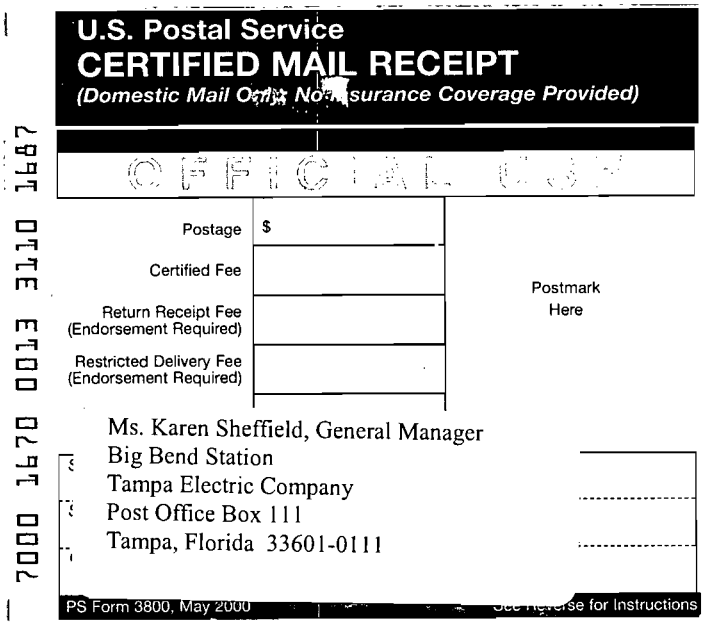
A.24. Compliance Assurance Monitoring (CAM). The permittee shall evaluate the applicability of CAM to Unit No. 1 and, if applicable, submit a CAM plan as a revision to the facility's current Title V air operation permit. [40 CFR 64; and Rule 62-204.800, F.A.C.]



• Sender: Please print your name, address, and ZIP+4 in this box •

Department of Environmental Protection
Bureau of Air Regulation - MS 5505
Compliance & Enforcement Section
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

ELA CODE



U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage $
Certified Fee
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Postmark Here

Ms. Karen Sheffield, General Manager
Big Bend Station
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

PS Form 3800, May 2000 See Reverse for Instructions

7000 1670 0013 3110 1687

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Karen Sheffield, General Manager
Big Bend Station
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2 Article Number *(Transfer from service label)* 7000 1670 0013 3110 1687

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

THE TAMPA TRIBUNE

Published Daily
Tampa, Hillsborough County, Florida

State of Florida }
County of Hillsborough } ss.

Before the undersigned authority personally appeared C. Pugh, who on oath says that she is the Advertising Billing Supervisor 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 TAMPA TRIBUNE

in the matter of PUBLIC NOTICE OF INTENT

was published in said newspaper in the issues of FEBRUARY 23, 2006

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 she has neither paid nor promised any person, this advertisement for publication in the said newspaper.

C Pugh

Sworn to and subscribed by me, this 24 day of FEBRUARY, A.D. 2006

Personally Known ✓ or Produced Identification ____
Type of Identification Produced ____

Tanya Patrick

NOTARY PUBLIC STATE OF FLORIDA
OFFICIAL NOTARY SEAL
TANYA PATRICK
COMMISSION NUMBER
DD 136745
MY COMMISSION EXP.
JULY 7, 2006

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL
PROTECTION

DEP File No:
0570039-024-AC

Tampa Electric Company
Big Bend Station,
Hillsborough County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to the Tampa Electric Company (TEC) for the Big Bend Station located at Big Bend Road, North Ruskin, Hillsborough County. This permit is for installation of selective catalytic reduction (SCR) systems on Steam Generator Units No. 1 and 2 for the reduction of emissions of nitrogen oxides (NOx). A Best Available Control Technology (BACT) determination was not required pursuant to Rules 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The applicant's mailing address is: Tampa Electric Company, P.O. Box 111, Tampa, Florida 33601-0111.

The SCR project is part of a larger program by TEC pursuant to a Consent Final Judgment (CFJ) with the Department and a Consent Decree (CD) with the Environmental Protection Agency to reduce emissions from its coal fired plants. There have been very substantial reductions of sulfur dioxide (SO2) to-date primarily due to the installation of a scrubber on Units No. 1 and 2. Other NOx control projects including installation of Low NOx burners and separate overfire air were previously approved.

This air construction permit will establish the SCR project as an applicable requirement for, subsequent incorporation into the facility's Title V Air Operation Permit. For reference, the permit will include a limit of 0.12 pounds of NOx per million Btu of heat input (lb/mmBtu) from Units No. 1. and 2.

The new NOx emissions limit is much less than the other applicable limit of 0.74 lb/mmBtu for the same unit under the Federal Acid Rain Program. Further control of NOx will reduce ozone formation potential in the Tampa Bay area. SCR in combination with the existing scrubber on Units No. 1 and 2 is also expected to reduce mercury emissions.

The Department will issue the Final construction permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed construction permit issuance action for a period of fourteen (14) days from the date of publication of this Public Notice of Intent to Issue Air Construction Permit. Written comments should be provided to the Departments Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5305, Tallahassee, Fl. 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.560 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.37 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact, if there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that 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 such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A complete project 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:

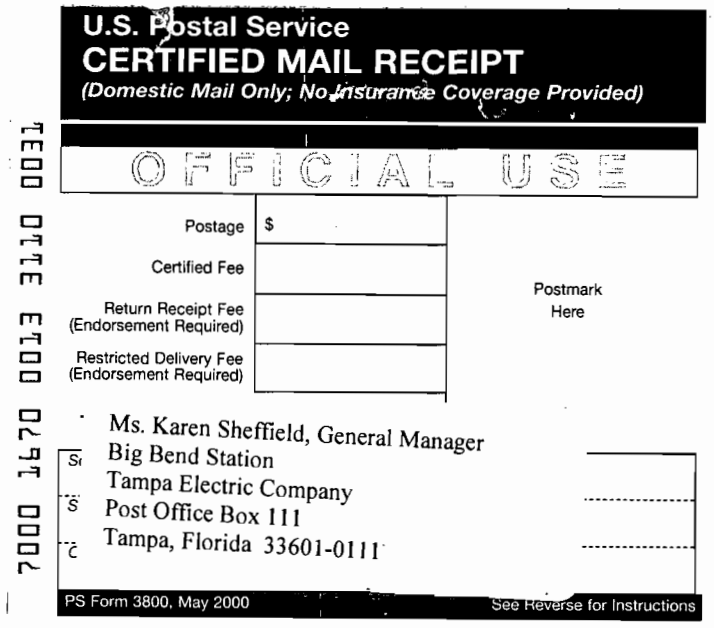
Dept. of Environmental Protection
Bureau of Air Regulation
Suite 4, 111 S. Magnolia Drive
Tallahassee, Florida 32301
Telephone: 850/488-0114
Fax: 850/922-6979

Dept. of Environmental Protection
Southwest District
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Telephone: 813/632-7600
Fax: 813/632-7665

Hillsborough County Environmental Protection Commission
Air Management Division
3629 Queen Palm Drive
Tampa, Florida 33619
Telephone: 813/627-2600

The complete project file includes the permit application, technical evaluation, Draft construction permit, and the information submitted by the responsible official, exclusive confidential records under Section 403,111, F.S. interested persons may contact the Departments reviewing engineer for this project, Tom Cascio, at MS 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, or Tom.Cascio@dep.state.fl.us or call 850/921-9526 for additional information. Key documents may also be viewed at: www.dep.state.fl.us/Air/permitting/construction.htm in the power plant category.

3172 02/23/06



U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7000 1670 0013 3110 0031

Ms. Karen Sheffield, General Manager
Big Bend Station
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

PS Form 3800, May 2000 — See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Karen Sheffield, General Manager
Big Bend Station
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) [illegible] C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

DOWNTOWN STATION TAMPA FL 33601 FEB -6 2006

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7000 1670 0013 3110 0031

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

UNITED STATES POSTAL SERVICE

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

Dept. of Environmental Protection
Division of Air Resources Mgt.
Bureau of Air Regulation, NSR
2600 Blair Stone Rd., MS 5505
Tallahassee, FL 32399-2400

REC
FEB 08 2006
BUREAU OF AIR REGULATION

C001

BIG BEND STATION

SELECTIVE CATALYTIC REDUCTION

UNIT 1 NO_x EMISSIONS CONTROL SYSTEM RETROFIT PROJECT

APPLICATION FOR AIR CONSTRUCTION PERMIT

Prepared for:

TAMPA ELECTRIC
Tampa, Florida

Prepared by:

Environmental Consulting & Technology, Inc.
3701 Northwest 98th Street
Gainesville, Florida 32606

ECT No. 040923-0400

December 2005

ATTACHMENT A

PROCESS FLOW DIAGRAM

TAMPA ELECTRIC

RECEIVED
DEC 29 2005
BUREAU OF AIR REGULATION

December 28, 2005

Mr. Tom Cascio,
Florida Department of
Environmental Protection
111 South Magnolia Drive, Suite 4
Tallahassee, FL 32301

Via FedEx
Airbill No. 7913 2053 4955

Extra Copy

Re: Tampa Electric Company
Big Bend Station
Consent Decree
Civil Action No. 99-2524 CIV-T-23F
Air Construction Permit Application for
Unit 2 Selective Catalytic Reduction (SCR) Project
0510039-034-AC

Dear Mr. Cascio,

Tampa Electric Company (TEC) requests an air construction permit to install a selective catalytic reduction (SCR) system for nitrogen oxides (NO_x) control on its Big Bend Station Unit 2 coal-fired boiler. TEC entered into the agreements with the Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP) concerning the installation of additional air pollution control systems at Big Bend Station. These agreements (EPA Consent Decree and FDEP Consent Final Judgment) included requirements to install additional air pollution control systems for NO_x control on Unit 2. In response to these requirements, TEC determined that the installation of low NO_x burners (LNB) and an SCR system are the technologies to be utilized to reduce the NO_x emissions on Big Bend Unit 2 to satisfy the requirements of the agreements.

Additionally, TEC reviewed the impacts with the operation of the SCR, associated combustion controls and associated systems (sulfur trioxide control) to determine the affects on the coal combustion byproducts and found that the fly ash would have limited marketability due to high ammonia content and carbon content. Therefore, a large portion of the fly ash could potentially need to be disposed of in a landfill. TEC researched this issue and found that several other companies mitigate the SCR impacts on fly ash by using carbon burnout (CBO) technology to reduce the carbon content. TEC has evaluated this technology and determined it to be feasible at Big Bend Station. A separate air construction permit for the CBO technology was submitted.

As stated in a letter sent to the FDEP dated April 4, 2003 and as mentioned in the meeting between TEC and FDEP on May 31, 2005, TEC reviewed the effects of installing the future NO_x

control and SO_3 control systems and determined that there is a potential for increase in particulate matter (PM) and opacity. Therefore, a request for higher permit limits may be submitted in the future.

Please find the enclosed air construction permit application for Big Bend Station's Unit 2 SCR.

TEC appreciates the cooperation of the Department in this matter. If you have any questions or comments, please contact Shelly Castro or me at (813) 228-4408.

Sincerely,

For

Byron T. Burrows
Manager - Air Programs
Environmental, Health & Safety

EHS/rlk/SSC

Enclosure

c/enc: Ms. Alice Harman, EPCHC
Mr. Jason Waters, FDEP SW
Mr. David Lloyd, EPA
Mr. Scott Sheplak, FDEP
Ms. Trina Vielhauer, FDEP
Mr. Sterlin Woodard, EPCHC

BIG BEND STATION

SELECTIVE CATALYTIC REDUCTION

UNIT 2 NO_x EMISSIONS CONTROL SYSTEM RETROFIT PROJECT

APPLICATION FOR AIR CONSTRUCTION PERMIT

Extra Copy

Prepared for:

TAMPA ELECTRIC
Tampa, Florida

Prepared by:

Environmental Consulting & Technology, Inc.
3701 Northwest 98th Street
Gainesville, Florida 32606

ECT No. 040923-0300

December 2005

INTRODUCTION

Tampa Electric Company (TEC) requests an air construction permit to add a selective catalytic reduction (SCR) system for nitrogen oxides (NO_x) control to its Big Bend Station Unit 2 coal-fired boiler. TEC entered into agreements with the U.S. Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP) which embody the resolutions between the agencies and TEC stemming from disputed issues surrounding TEC's maintenance activities to its Big Bend and Gannon Stations that were alleged to be in violation of the EPA's new source review rules and new source performance standards which are currently codified in Title I of the Clean Air Act Amendment. These settlements and amendments are collectively known as the *Agreements*. These Agreements include requirements to install additional systems for NO_x control on Unit 2. In response to these requirements, TEC determined that the installation of a SCR system is required to reduce Big Bend Station Unit 2 NO_x emissions.

Figure 1 shows the location of the Big Bend Unit 2 SCR, which will be installed downstream of the economizer and upstream of the air preheater. The SCR reactor is designed as a three-plus-one catalyst configuration. The fourth catalyst management layer, designed to maximize the residual catalyst life and lower operating costs, will be initially empty and will be installed as the initial three catalyst layers lose activation.

TEC is currently evaluating available options with respect to ammonia type and supply, and will notify FDEP when TEC's plans are finalized. Current plans include the use of anhydrous ammonia supplied by pipeline without onsite storage. TEC will not have any control over the operation of the anhydrous ammonia pipeline. Should there be an interruption in the supply of anhydrous ammonia through this pipeline, TEC will be unable to continue SCR ammonia injection and will notify FDEP in accordance with the requirements of Rule 62-4.130, *Plant Operation – Problems*. SCR tuning (i.e., adjustment of the ammonia injection grid) will be performed during the initial commissioning of the system and periodically thereafter. Consistent with the recently issued air construction permit for

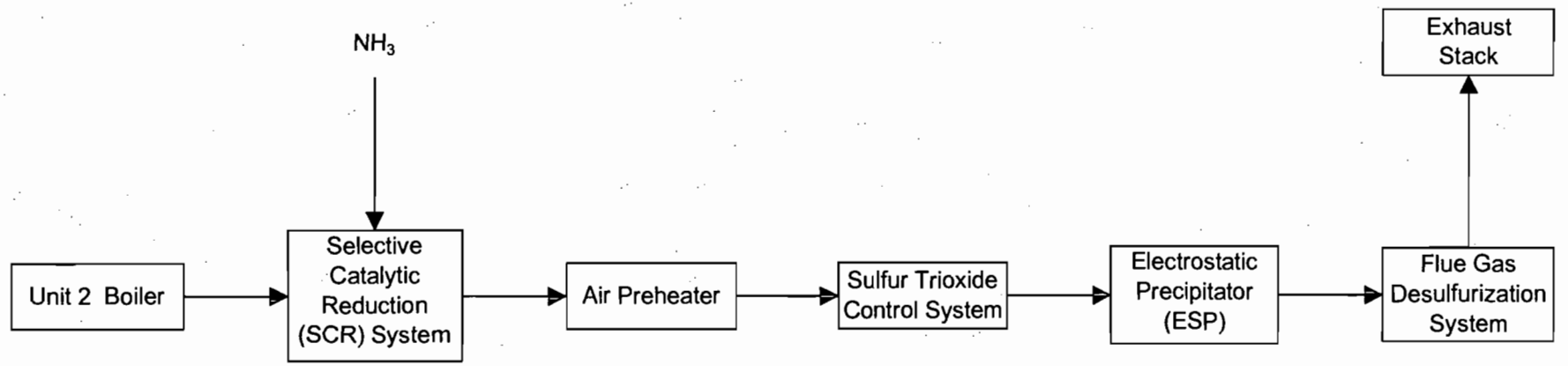


FIGURE 1.

SIMPLIFIED FLOW DIAGRAM OF BIG BEND UNIT 2 CONTROL SYSTEMS

Source: ECT, 2005.

ECT
Environmental Consulting & Technology, Inc.

Unit 3 SCR, TEC requests that the Unit 2 SCR air construction permit include a condition authorizing excess emissions in the event there is an unanticipated interruption, malfunction, or failure of the ammonia pipeline and associated equipment consistent; reference Condition A.15.3 of Unit 3 SCR Air Construction Permit No. 0570039-022-AC.

TEC proposes to install a system immediately downstream of the Unit 2 air preheater to control the inherent increases of sulfur trioxide (SO_3) that result from the use of vanadium-containing catalyst in SCR control systems.

TEC is proposing that ammonia slip, measured at the stack downstream of all emission control systems, be targeted at 5 parts per million by volume (ppmv). TEC is also proposing to conduct annual testing of ammonia slip and perform corrective measures if the target level is being exceeded.

The minimum operating temperature of the SCR catalyst is approximately 625 degrees. Extended operation below this temperature is not recommended by the catalyst manufacturer since it will likely damage the catalyst, create pluggage in the air preheater, and will void the manufacturer's guarantees/warrantees. For these reasons, ammonia typically will not be injected into the SCR system during low exhaust temperature events. This will include events such as boiler startups and shutdowns, equipment malfunctions, operating and maintenance requirements such as condenser cleanings, and various other low load conditions. The Unit 2 SCR control system will not include a bypass. Consistent with the recently issued air construction permit for Unit 3 SCR, TEC requests that a permit condition be included in the Unit 2 SCR air construction permit authorizing [redacted] the cessation of SCR ammonia injection during periods of low loads and exhaust temperatures in accordance with the SCR catalyst manufacturer recommended operating procedures; reference Condition A.15.1 of Unit 3 SCR Air Construction Permit No. 0570039-022-AC.

Big Bend Unit 2 SCR will be designed to meet a heat input weighted average NO_x emission limit of 0.12 pound per million British thermal unit (lb/MMBtu) based on a 30-day rolling average inclusive of low load operations and exclusive of startup, shutdown, mal-

function, or abnormal events. NO_x will be continuously monitored using the existing Unit 2 NO_x continuous emissions monitoring system to confirm compliance. The SCR system does not add significant mass flow to the stack other than the addition of dilution air for ammonia injection. The stack temperature will be unaffected.

Major construction activities for the Big Bend Station Unit 2 SCR control system are scheduled to begin August 1, 2006, and be completed by May 1, 2009.

FDEP's Application for Air Permit, Long Form, follows this introduction. Attachment A provides a process flow diagram of Unit 2 SCR. A proposed air construction permit is provided in Attachment B.

Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit–Use this form to apply for an air construction permit for a proposed project:

- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:

- an initial federally enforceable state air operation permit (FESOP); or
- an initial/revised/renewal Title V air operation permit.

Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **Tampa Electric Company**
2. Site Name: **Big Bend Station**
3. Facility Identification Number: **0570039**
4. Facility Location...:
   Street Address or Other Locator: **13031 Wyandotte Road**
   City: **Apollo Beach** County: **Hillsborough** Zip Code: **33572**
5. Relocatable Facility? ☐ Yes ☒ No
6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: **Shelly Castro, Engineer – Air Programs**
2. Application Contact Mailing Address...
   Organization/Firm: **Tampa Electric Company**
   Street Address: **P. O. Box 111**
   City: **Tampa** State: **FL** Zip Code: **33601**
3. Application Contact Telephone Numbers...
   Telephone: **(813) 228-4408** ext. Fax: **(813) 228-1308**
4. Application Contact Email Address: **sscastro@tecoenergy.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Project Number(s):	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

APPLICATION INFORMATION

Purpose of Application

This application for air permit is submitted to obtain: (Check one)

Air Construction Permit

☒ Air construction permit.

Air Operation Permit

☐ Initial Title V air operation permit.
☐ Title V air operation permit revision.
☐ Title V air operation permit renewal.
☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

☐ Air construction permit and Title V permit revision, incorporating the proposed project.
☐ Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

☐ I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

Project consists of the addition of selective catalytic reduction (SCR) to emissions unit (E.U.) 002. This NO_x control system is being installed in accordance with agreements between Tampa Electric Company (TEC) and the U.S. Environmental Protection Agency (EPA Consent Decree) and the Florida Department of Environmental Protection (FDEP Consent Final Judgment).

As requested by FDEP, this application constitutes TEC's request for an air construction permit for the Big Bend Station Unit 2 SCR NO_x pollution control project.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
002	Unit No. 2 Steam Generator	N/A	N/A

Application Processing Fee

Check one: ☐ Attached - Amount: $_____ ☒ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name:
   Karen Sheffield, General Manager, Big Bend Station
2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **Tampa Electric Company**
   Street Address: **P.O. Box 111**
   City: **Tampa** State: **Florida** Zip Code: **33601-0111**
3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **813-228-4111** ext. Fax: **813-228-1308**
4. Owner/Authorized Representative Email Address: **kasheffield@tecoenergy.com**
5. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.

Karen Sheffield — Signature

12/28/05 — Date

APPLICATION INFORMATION

Application Responsible Official Certification **N/A**

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name:

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):
   - ☐ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.
   - ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
   - ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
   - ☐ The designated representative at an Acid Rain source.

3. Application Responsible Official Mailing Address...
   Organization/Firm:
   Street Address:
   City: State: Zip Code:

4. Application Responsible Official Telephone Numbers...
   Telephone: ext. Fax:

5. Application Responsible Official Email Address:

6. Application Responsible Official Certification:

I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

Signature Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **Thomas W. Davis**
   Registration Number: **36777**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Environmental Consulting & Technology, Inc.**
   Street Address: **3701 Northwest 98th Street**
   City: **Gainesville** State: **FL** Zip Code: **32606-5004**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 332-0444** ext. Fax: **(352) 332-6722**
4. Professional Engineer Email Address: **tdavis@ectinc.com**
5. Professional Engineer Statement:

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

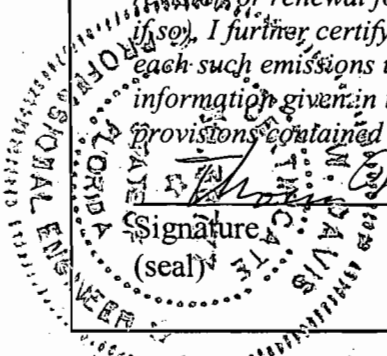
(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

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

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.

(4) If the purpose of this application is to obtain an air construction permit (check here ☒, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here ☐, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here ☐, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.



Signature (seal)

12/22/05
Date

* Attach any exception to certification statement.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone **17** East (km) **361.9** North (km) **3,075.0**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **49**	6. Facility SIC(s): **4911**
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: **Karen Zwolak, Senior Environmental Consultant**
2. Facility Contact Mailing Address... Organization/Firm: **Tampa Electric Company** Street Address: **P. O. Box 111** City: **Tampa** State: **FL** Zip Code: **33601**
3. Facility Contact Telephone Numbers: Telephone: **(813) 228-4111** ext. Fax: **(813) 228-1308**
4. Facility Contact Email Address: **kozwolak@tecoenergy.com**

Facility Primary Responsible Official **N/A**

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: ( ) - ext. Fax: ( ) -
4. Facility Primary Responsible Official Email Address:

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. ☐ Small Business Stationary Source	☐ Unknown
2. ☐ Synthetic Non-Title V Source	
3. ☒ Title V Source	
4. ☒ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. ☐ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. ☒ Major Source of Hazardous Air Pollutants (HAPs)	
7. ☐ Synthetic Minor Source of HAPs	
8. ☒ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. ☐ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. ☐ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. ☐ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment:	

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**
VOC	**A**	**N**
H106 (Hydrogen Chloride)	**A**	**N**
H107 (Hydrogen Fluoride)	**A**	**N**
H133 (Nickel Compounds)	**A**	**N**
HAPS (Total)	**A**	**N**

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID No.s Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap
SO2	**N**	**001 – 004**		**71,810**	**ESCPSD**
PM/PM10	**N**	**001 – 004**		**2,767**	**ESCPSD**

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

Additional SO_2 caps for Units 001 – 003 are 31.5 ton/hr (3-hour average), and 25 ton/hr (24-hour block average). In addition, Units 001 and 002 are limited to 16.5 ton/hr SO_2 (24-hour block average).

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date: **Oct. 2004**
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Att. A** ☐ Previously Submitted, Date:
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date: **Oct. 2004**

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location:
   ☐ Attached, Document ID: ☒ Previously Submitted, Date: **June 30, 2004**
2. Description of Proposed Construction or Modification:
   ☒ Attached, Document ID: **See comment below** ☐ Not Applicable
3. Rule Applicability Analysis:
   ☐ Attached, Document ID: ☒ Previously Submitted, Date: **June 30, 2004**
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.):
   ☐ Attached, Document ID: ☒ Previously Submitted, Date: **June 30, 2004**
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.):
   ☐ Attached, Document ID: ☒ Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.):
    ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements for FESOP Applications **N/A**

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID: ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications **N/A**

See comment below

1. List of Insignificant Activities (Required for initial/renewal applications only):
   ☐ Attached, Document ID: _____ ☐ Not Applicable

2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):
   ☐ Attached, Document ID: _____
   ☐ Not Applicable

3. Compliance Report and Plan (Required for all initial/revision/renewal applications):
   ☐ Attached, Document ID: _____
   Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.

4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):
   ☐ Attached, Document ID: _____
   ☐ Equipment/Activities On site but Not Required to be Individually Listed
   ☐ Not Applicable

5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) :
   ☐ Attached, Document ID: _____ ☐ Not Applicable

6. Requested Changes to Current Title V Air Operation Permit:
   ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements Comment

A description of the proposed addition of selective catalytic reduction NO_x control system to Unit 2 is provided in the Introduction and also in Application Comment section on Page 2 of this application.

EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

☒ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

☐ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

☐ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:
Riley Stoker wet bottom fossil fuel steam boiler

3. Emissions Unit Identification Number: **002**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A			**49**	☒ Yes ☐ No

9. Package Unit:
Manufacturer: **Riley Stoker** Model Number:

10. Generator Nameplate Rating: **445 MW**

11. Emissions Unit Comment:

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Low-NO_x Burners (LNB) - NO_x
[Control Device Code 205]

Selective Catalytic Reduction (SCR) - NO_x
[Control Device Code 139]

Miscellaneous Control Devices - SO_3
[Control Device Code 099]

Electrostatic Precipitator (ESP) - PM/PM_{10}
[Control Device Code 010]

Wet Limestone Injection Flue Gas Desulfurization (FGD) - SO_2 & PM/PM_{10}
[Control Device Code 042] (when firing coal/petroleum coke blends and coal residual)

2. Control Device or Method Code(s): **205, 139, 099, 010, 042**

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: **445 MW**	
3. Maximum Heat Input Rate: **3,996 million Btu/hr**	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule:	
24 hours/day	**7** days/week
52 weeks/year	**8,760** hours/year
6. Operating Capacity/Schedule Comment:	

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: **CS0W1**	2. Emission Point Type Code: **2**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **N/A**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **490 feet**	7. Exit Diameter: **24 feet**
8. Exit Temperature: **127 °F**	9. Actual Volumetric Flow Rate: **1,218,818 acfm**	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
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: **Stack data is for Unit 2, scrubbed. In Units 1 and 2 unscrubbed mode, the exhaust flows from both Units 1 and 2 discharge to dry stack CS001.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 5

1. Segment Description (Process/Fuel Type): **Coal burned in Unit No. 2.**		
2. Source Classification Code (SCC): **1-01-002-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **181.6**	5. Maximum Annual Rate: **1,591,135**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **5.4**	8. Maximum % Ash: **13.3**	9. Million Btu per SCC Unit: **22**
10. Segment Comment: **Btu per SCC unit value (Field 9) based on a nominal coal heat content of 11,000 Btu/lb. Maximum % sulfur (Field 7) is estimated based on 2005 purchases.**		

Segment Description and Rate: Segment 2 of 5

1. Segment Description (Process/Fuel Type): **No. 2 fuel oil burned in Unit No. 2.**		
2. Source Classification Code (SCC): **1-01-005-01**	3. SCC Units: **1,000 Gallons Burned**	
4. Maximum Hourly Rate: **N/A**	5. Maximum Annual Rate: **N/A**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.5**	8. Maximum % Ash: **0.1**	9. Million Btu per SCC Unit: **139**
10. Segment Comment: **No. 2 fuel oil burned only during startup, shutdown, flame stabilization, and during the start of a mill.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 3 of 5

1. Segment Description (Process/Fuel Type): **Petroleum coke burned in Unit No. 2.**		
2. Source Classification Code (SCC): **1-01-008-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **36.3**	5. Maximum Annual Rate: **318,227**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **7.0**	8. Maximum % Ash: **0.8**	9. Million Btu per SCC Unit: **28**
10. Segment Comment: **Maximum petcoke rates (Fields 4 and 5) based on 20% of coal rates.**		

Segment Description and Rate: Segment 4 of 5

1. Segment Description (Process/Fuel Type): **Raw coal residual burned in Unit No. 2.**		
2. Source Classification Code (SCC): **1-01-002-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: *	5. Maximum Annual Rate: **73,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **1.43**	8. Maximum % Ash: **57.7**	9. Million Btu per SCC Unit: **6.1**
10. Segment Comment: ***Firing of raw coal residual is limited to 200 tons per day total for Units 1 through 4. Maximum annual coal residual rate (Field 5) is the total for Units 1 through 4.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment **5** of **5**

1. Segment Description (Process/Fuel Type): **Beneficiated coal residual burned in Unit No. 2.**		
2. Source Classification Code (SCC): **1-01-002-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: *	5. Maximum Annual Rate: **182,500**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **1.5**	8. Maximum % Ash: **35.4**	9. Million Btu per SCC Unit: **17.95**
10. Segment Comment: ***Firing of beneficiated coal residual is limited to 500 tons per day total for Units 1 through 4. Maximum annual coal residual rate (Field 5) is the total for Units 1 through 4. Sulfur, ash, and heat contents are on a dry basis.**		

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 NO_x Burners)**	**139 [SCR])**	**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- 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: **NO_x**	2. Total Percent Efficiency of Control: **80 percent**
3. Potential Emissions: **479.5** lb/hour **2,100** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year	
6. Emission Factor: **N/A** Reference:	7. Emissions Method Code: **0**

8. Calculation of Emissions:

$$\frac{0.12\ lb\ NO_x}{MMBtu} \times \frac{3{,}996\ MMBtu}{hr} = 479.5\ lb\ \frac{NO_x}{hr}$$

$$479.5\ lb\ \frac{NO_x}{hr} \times 8{,}760\ \frac{hr}{yr} \times \frac{ton}{2{,}000} = 2{,}100\ \frac{ton}{yr}$$

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

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 1 of 1

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions: **May 1, 2009**
3. Allowable Emissions and Units: **0.12 lb/MMBtu, heat input weighted 30-day rolling average**	4. Equivalent Allowable Emissions: **479.5** lb/hour **2,100** tons/year
5. Method of Compliance: **NO_x CEMS**	
6. Allowable Emissions Comment (Description of Operating Method): **Basis for allowable emissions is the EPA Consent Decree and the FDEP Consent Final Judgment**	

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):	

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:	2. Total Percent Efficiency of Control:
3. Potential Emissions: lb/hour tons/year	4. Synthetically Limited? ☐ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: Reference:	7. Emissions Method Code:
8. Calculation of Emissions:	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **Other than NO_x, TEC is not requesting any revisions to currently authorized emission standards as specified in FINAL Title V Permit No. 0570039-021-AV. The information requested by Section F1 regarding Unit 2 allowable emissions for pollutants other than NO_x can be found in FINAL Title V Permit No. 0570039-021-AV.**	

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): **Other than NO_x, TEC is not requesting any revisions to currently authorized emission standards as specified in FINAL Title V Permit No. 0570039-021-AV. The information requested by Section F2 regarding allowable emissions for pollutants other than NO_x for Unit No. 2 can be found in FINAL Title V Permit No. 0570039-021-AV.**	

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):	

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation ___ of

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment: **TEC is not requesting any revisions to currently authorized visible emission standards as specified in FINAL Title V Permit No. 0570039-021-AV. The information requested by Section G regarding visible emissions for Unit No. 2 can be found in FINAL Title V Permit No. 0570039-021-AV.**	

Visible Emissions Limitation: Visible Emissions Limitation ___ of

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ___ of

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Information regarding Unit No. 2 CEMS remains unchanged from the data previously provided to the Department.**	

Continuous Monitoring System: Continuous Monitor ___ of

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **A** ☐ Previously Submitted, Date

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ___ ☒ Previously Submitted, Date **June 2004**

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Intro.** ☐ Previously Submitted, Date

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ___ ☒ Previously Submitted, Date **June 2004**
   ☐ Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ___ ☒ Previously Submitted, Date **June 2004**
   ☐ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID:
   Test Date(s)/Pollutant(s) Tested:

   ☐ Previously Submitted, Date:
   Test Date(s)/Pollutant(s) Tested:

   ☐ To be Submitted, Date (if known):_____
   Test Date(s)/Pollutant(s) Tested:

   ☒ Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☐ Attached, Document ID: ___ ☒ Not Applicable

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: ___ ☒ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: ___ ☒ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: ___ ☒ Not Applicable

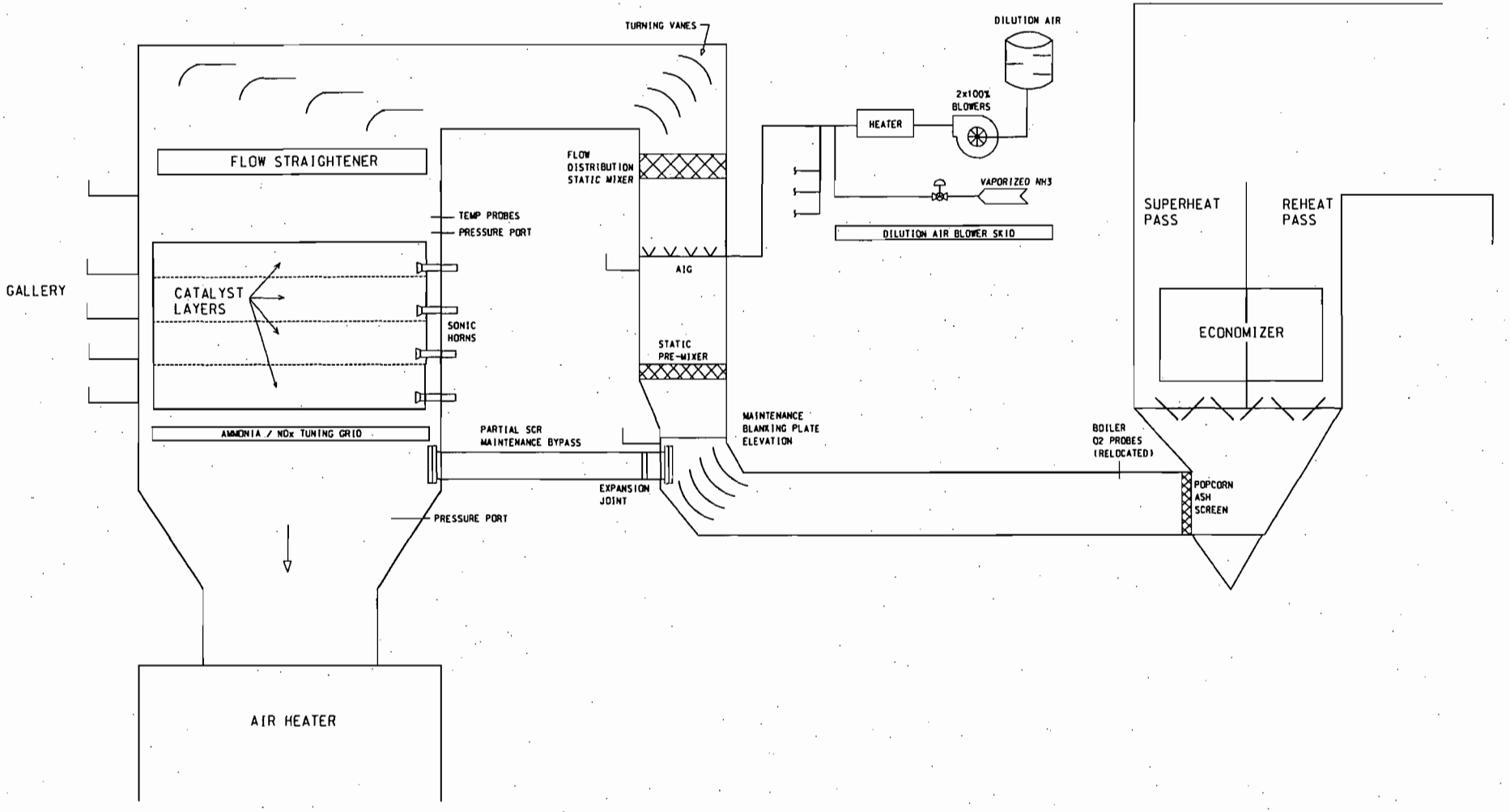
Additional Requirements for Title V Air Operation Permit Applications N/A

1. Identification of Applicable Requirements
   ☐ Attached, Document ID: ___ ☐ Previously Submitted, Date
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: ___ ☐ Previously Submitted, Date
3. Alternative Methods of Operation
   ☐ Attached, Document ID: ___ ☐ Previously Submitted, Date
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: ___ ☐ Not Applicable
5. Acid Rain Part Application
   - ☐ Certificate of Representation (EPA Form No. 7610-1)
     - ☐ Copy Attached, Document ID:
   - ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Not Applicable

Additional Requirements Comment

ATTACHMENT A

PROCESS FLOW DIAGRAM



CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S /INSTALLER'S PERSONNEL (OR THAT OF ITS SUBCONTRACTOR(S)) PERFORMING THE WORK

TAMPA ELECTRIC

FILE I.D.: 882 SCR.DGN

DRAWING RELEASE RECORD

REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE	F FILM

DRAWING RELEASE RECORD

REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE	F FILM
A	12-22-2005	A. MASSA	K. HOPKINS	D. ANDERSON	FOR INFORMATION	

SCALE: NONE

PROJECT NUMBER: 11764-002

SCR PROJECT
FLOW DIAGRAM

UNITS 1 & 2
BIG BEND POWER STATION
TAMPA ELECTRIC

Sargent & Lundy

55 E. MONROE STREET CHICAGO, ILLINOIS 60603-5780 CERTIFICATION OF AUTHORIZATION NO. 6316

DRAWING NO.: M5K12092005

REV.: A

ATTACHMENT B

PROPOSED AIR CONSTRUCTION PERMIT

DRAFT AIR CONSTRUCTION PERMIT NO. 0570039-023-AC

PERMITTEE

Tampa Electric Company (TEC)	File/Permit No.	0570039-023-AC
Big Bend Station	Facility ID:	0570039
Post Office Box 111	Project:	NO_X Reduction (SCR)
Tampa, Florida 33601-0111		Steam Generator Unit 2
	SIC No.	4911
Authorized Representative:	Expires:	*December 1, 2009*
Karen Sheffield, General Manager	County	Hillsborough

PROJECT AND LOCATION

This is an Air Construction Permit for the installation of a selective catalytic reduction system for nitrogen oxides control on the solid fuel-fired Steam Generator Unit No. 2. The reductions are part of an emissions reduction program required by a Consent Final Judgment with the Department and a Consent Decree with the United States Environmental Protection Agency. The air construction permit will also establish these specific projects as applicable Title V Operation Permit conditions.

The Tampa Electric Company (TEC) Big Bend Station is located at Wyandotte Road, Apollo Beach, Hillsborough County. UTM Coordinates are Zone 17, 361.9 km East and 3075.0 km North; Latitude: 27° 47' 36" North and Longitude: 82° 24' 11" West.

STATEMENT OF BASIS

This Air Construction Permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The above named permittee is authorized to install the SCR system at the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

THE ATTACHED APPENDIX IS MADE A PART OF THIS PERMIT:

Appendix GC Construction Permit General Conditions

Michael G. Cooke, Director
Division of Air Resource Management

FACILITY DESCRIPTION

This facility consists primarily of four existing fossil fuel steam generators (boilers) and three simple-cycle combustion turbines. Emissions from all steam generators are controlled by electrostatic precipitators (ESPs), and flue gas desulfurization (FGD) systems. There are ongoing nitrogen oxides (NO_X) control projects pursuant to a Consent Final Judgment (CFJ) between TEC and the Department and a Consent Decree (CD) between TEC and the United States Environmental Protection Agency (EPA).

EMISSIONS UNITS

This permit addresses the installation of an ammonia injection system and catalyst at the following Unit:

Emission Unit No.	System	Emission Unit Description
002	Power Generation	445 MW Fossil Fuel Steam Generator

The proposed project is called selective catalytic reduction (SCR). A recent NO_X control project on Unit 2 includes installation of new coal burners suitable for low NO_X operation.

REGULATORY CLASSIFICATION

The facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), nitrogen oxides (NO_X), carbon monoxide (CO), or volatile organic compounds (VOC), exceed 100 tons per year (TPY).

The addition of SCR to Unit No. 2 reduces NO_X emissions. It has been determined by the Department that the project is classified as a Pollution Control Project, as defined in 40 CFR 52.21(b)32, and meets the requirements of Rule 62-212.400(2)(a)2., F.A.C., and 40 CFR 52.21(b)(2)(iii)(h). Therefore, the project is not a modification under Department regulations.

PERMIT SCHEDULE

- Month Day, 2006 Notice of Intent to Issue Permit published.
- Month Day, 2006 Intent to Issue Permit distributed.
- February 15, 2006 Application deemed complete.
- December 28, 2005 Application received.

RELEVANT DOCUMENTS

The documents listed below are the basis of the permit. They are specifically related to this permitting action, but not all are incorporated into this permit. These documents are on file with the Department.

- Application received on December 28, 2005.
- The Department's Technical Evaluation and Preliminary Determination, issued concurrently with this draft permit.
- EPA Consent Decree (U.S. vs. TEC) dated February 29, 2000, amended October 4, 2000.
- FDEP Consent Final Judgment (DEP vs. TEC) dated December 6, 1999.
- Title V Air Operation Permit Renewal No. 0570039-017-AV.
- Tampa Electric Submittals for PSC Docket 040750-EI.
- E-mail memorandum from EPA received on September 15, 2005.

PROJECT DESCRIPTION

TEC will install an SCR system for NO_X control on the facility's Unit No. 2 coal-fired boiler. This emissions unit is a Riley Stoker Corporation "wet" bottom utility boiler, with a generator nameplate rating of 445 megawatts (MW). The basic boiler startup and shutdown procedures will not need to be altered with the addition of the SCR (i.e., the existing Unit No. 2 boiler ramp rate is adequate for the SCR catalyst). The project consists of:

- Installation of a "three plus one" SCR reactor downstream of the economizer and upstream of the air preheater.
- Installation of an ammonia storage, supply, and injection system the details of which are still under development.
- SCR tuning (i.e., adjustment of the ammonia injection grid) during the initial commissioning of the system and periodically thereafter.
- Installation of an ammonia injection sulfur trioxide (SO_3) control system downstream of the Unit No. 2 air preheater.

The project is much more involved than suggested by the brief description above. Following are additional details of the work likely to occur in association with the SCR installation:

- Demolition of existing flue gas ductwork as necessary to tie-in the SCR system
- Demolition of existing structural steel, modification and reinforcement of existing steel supports for a new duct from the existing steel
- Economizer gas temperature control
- Gas ductwork from economizer outlet to the SCR inlet (includes hoppers, mixers and turning vanes)
- SCR reactor (includes equipment for catalyst management) and catalyst
- Gas ductwork between the SCR & air heater
- Foundations for ductwork and structural steel
- Structural modifications for construction cranes
- Ammonia or Urea to ammonia conversion system
- Air heater modifications
- Electrical modifications
- Relocation of existing equipment and utilities
- Mobilization/demobilization
- Equipment rental
- Engineering construction management
- Asbestos removal
- Boiler and ESP reinforcement
- New Induced Draft ("ID") fans and motors
- ID fan foundations and electrical
- New and modified ductwork
- Auxiliary power and controls modifications

PROJECT SCHEDULE

Emissions Unit ID Number	Estimated start date	Estimated completion date
002	August 1, 2006	May 1, 2009

ADMINISTRATIVE REQUIREMENTS

A.1. Regulating Agencies. All documents related to applications for permits to construct, operate or modify an emissions unit should be submitted to the Bureau of Air Regulation, Florida Department of Environmental Protection, at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, and phone number (850) 488-0114. All documents related to reports, tests, and notifications should be submitted to the Environmental Protection Commission of Hillsborough County, and copies of those submittals shall be sent to the Department of Environmental Protection, Southwest District Office.

Addresses and telephone numbers are:

Environmental Protection Commission of Hillsborough County
Roger P. Stewart Center
3629 Queen Palm Drive
Tampa, Florida 33619
Telephone: 813/627.2600; Fax: 813/627-2660

Department of Environmental Protection
Southwest District Office, Air Resources Section
3804 Coconut Palm Drive
Tampa, Florida 33619-1352
Telephone: 813/744-6100; Fax: 813/744-6084

A.2. General Conditions. The owner and operator is subject to, and shall operate under the attached General Permit Conditions **G.1.** through **G.15.** listed in Appendix GC of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]

A.3. Terminology. The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code (F.A.C.).

A.4. Forms and Application Procedures. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C., and follow the application procedures in Chapter 62-4, F.A.C. [Rule 62-210.900, F.A.C.]

A.5. Modifications. The permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change. [Chapters 62-210 and 62-212, F.A.C.]

A.6. New or Additional Conditions. For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

A.7. Permit Extension. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit. [Rule 62-4.080, F.A.C.]

APPLICABLE STANDARDS AND REGULATIONS

A.8. Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S., and Florida Administrative Code Chapters 62-4, 62-103, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297.

A.9. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. [Rule 62-210.300, F.A.C.]

A.10. The facility is subject to all of the requirements specified in Title V Air Operation Permit Renewal No. 0570039-017-AV.

A.10.1. An application for a Title V Air Operation Permit Revision, pursuant to Chapter 62-213, F.A.C., must be submitted to the Department's Bureau of Air Regulation to incorporate the specific conditions of this Air Construction Permit. [Chapter 62-213, F.A.C.]

GENERAL OPERATION REQUIREMENTS

A.11. Unconfined Particulate Emissions. During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary. [Rule 62-296.320(4)(c)., F.A.C.]

A.12. Plant Operation – Problems. If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the Environmental Protection Commission of Hillsborough County as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit and the regulations. [Rule 62-4.130, F.A.C.]

A.13. Operating Procedures. Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment. [Rule 62-4.070(3), F.A.C.]

A.14. Circumvention. The owner or operator shall not circumvent the air pollution control equipment nor operate the SCR equipment in such a manner which would violate allowable emission rates stated herein, notwithstanding the conditions provided in A.15.1. [Rules 62-210.650, F.A.C.]

CONTROL TECHNOLOGY

A.15. The permittee shall install a selective catalytic reduction (SCR) system for nitrogen oxides (NO_X) control on the facility's Unit No. 2 solid fuel-fired boiler.
[Applicant Request and EPA Consent Decree (U.S. vs. TEC) dated February 29, 2000, amended October 4, 2000, and FDEP Consent Final Judgment (DEP vs. TEC) dated December 6, 1999.]

SCR OPERATION

A.15.1 The permittee shall operate the SCR system in accordance with the SCR system supplier's recommendations, including operating the SCR between minimum and maximum operating temperatures.

A.15.2. The partial SCR maintenance bypass duct is normally closed except during maintenance periods.

A.15.3 Abnormal events: "Abnormal events" are defined as an unanticipated interruption, malfunction, or failure of the pipeline or associated equipment utilized to supply ammonia to the Big Bend Station for use in the operation of the selective catalytic reduction control system. Excess emissions occurring from operation of the boilers during an abnormal event are authorized provided that best operational practices are employed to minimize the amount and duration of the emissions during an abnormal event.

EMISSION LIMITS AND STANDARDS

A.16. After April 30, 2009 NO_X emissions (reported as NO_2) from Unit No. 2 when combusting solid fuel, shall not exceed 0.12 lb NO_x/million Btu heat input on a heat input weighted 30 boiler operating day rolling average basis. These emission limits are based on the definition of "emission rate" so that an equation is used that divides total pounds of NO_x by total heat input in each 30-day period to reach a 30-day rolling average.

[Applicant Request and EPA Consent Decree (U.S. vs. TEC) dated February 29, 2000, amended October 4, 2000, and FDEP Consent Final Judgment (DEP vs. TEC) dated December 6, 1999; and E-mail memorandum from EPA received on September 15, 2005.]

{Permitting Note: Limits in this condition are sufficient to also comply with requirements of: Rule 62-204.800(7)(b)2., F.A.C.; 40 CFR 60.44a(a); 40 CFR 60.4a(c); and PSD-FL-040]

A.17. Ammonia slip, measured at the stack downstream of all emissions control systems, shall not exceed 10 parts per million by volume (ppmv). Annual testing of ammonia slip shall be conducted and corrective measures taken if measured values exceed 5 ppmv.

[Applicant request; and Rule 62-4.070(3), F.A.C.]

COMPLIANCE DETERMINATION

A.18. Nitrogen oxides emissions shall be continuously monitored to confirm compliance, using the Unit's existing continuous emissions monitoring system (CEMS). Compliance is determined by calculating the heat input weighted average of all hourly emission rates for NO_X for the 30 successive boiler operating days, except for data obtained during startup, shutdown, malfunction, or abnormal events.

[Rule 62-204.800(7)(b)2., F.A.C.; 40 CFR 60.46a(g), 0570039-017-AV]

A.19. Compliance with the ammonia (NH_3) slip limit shall be determined using EPA conditional test method (CTM-027), EPA method 320 or other methods approved by the Department. .[Rule 62-4.070 (3), F.A.C.]

A.20. Compliance with the emission limiting standards specified in this Air Construction Permit shall be determined by April 30, 2009, and annually thereafter, using the appropriate specific conditions of the facility's existing Title V Air Operations Permit No. 0570039-017-AV, by using the appropriate EPA reference test methods, or Department test methods.

[0570039-017-AV; and Rules 62-204.220 and 62-4.070 (3), F.A.C.]

A.21. Compliance with the heat input weighted 30 boiler operating day rolling average NO_X emission limit of 0.12 lb NO_x/mmBtu shall be demonstrated using CEMS data beginning May 31, 2009 (or 30 boiler operating days after May 1, 2009), and every 30 boiler operating days thereafter.

A.22. Test Results. Compliance test results shall be submitted to the Environmental Protection Commission of Hillsborough County and the Department no later than 45 days after completion of the last test run. [Rule 62-297.310(8), F.A.C.]

NOTIFICATION, REPORTING, AND RECORDKEEPING

A.23. Emission Compliance Stack Test Reports. A test report indicating the results of the required compliance tests shall be filed as per Specific Condition **A.22.** The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the compliance authority to determine if the test was properly conducted and if the test results were properly computed.
[Rule 62-297.310(8), F.A.C.]

COMPLIANCE ASSURANCE

A.24. Compliance Assurance Monitoring (CAM). The permittee shall evaluate the applicability of CAM to Unit No. 2 and, if applicable, submit a CAM plan as a revision to the facility's current Title V air operation permit. [40 CFR 64; and Rule 62-204.800, F.A.C.]