Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

PERMITTEE

Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

Authorized Representative:
Mr. Ronald Bishop, Director

Air Permit No. 0570039-096-AC
Permit Expires: December 31, 2017
Minor Air Construction Permit
Big Bend Station
SO_2 NAAQS Emission Limit

PROJECT

This is the final air construction permit, which revises Permit No. 0570039-074-AC for minor clarifications of the SO_2 emissions averaging calculations and effective date. The Big Bend Station is an electric power facility categorized under Standard Industrial Classification No. 4911. The existing facility is located in Hillsborough County at 13031 Wyandotte Road in Apollo Beach, Florida. The UTM coordinates are Zone 17, 363.15 kilometers (km) East and 3074.91 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

STATEMENT OF BASIS

This air pollution 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 permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, 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 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

(DRAFT)

Syed Arif, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

DRAFT

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Construction Permit package was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Mr. Ronald Bishop, Director, TEC: rdbishop@tecoenergy.com
Mr. Byron Burrows, TEC: btburrows@tecoenergy.com
Mr. Robert Velasco, P.E., TEC: ravelasco@tecoenergy.com
Ms. Diana Lee, EPCHC: lee@epchc.org
DEP Siting Office: SCO@dep.state.fl.us
Ms. Alisa Coe, Earth Justice: acoe@earthjustice.org
Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

DRAFT

FACILITY DESCRIPTION

Tampa Electric Company, Big Bend Station, is a nominal 1,892 megawatt (MW) electric generation facility. This facility consists of four fossil fuel fired electrical generating units (Units 1 – 4); four steam turbines electrical generators; two simple-cycle combustion turbine (SCCT) 4A and 4B sharing a common electrical generator; solid fuels, fly ash, limestone, gypsum, slag, bottom ash storage and handling facilities; and, fuel oil storage tanks.

The existing facility consists of the following emissions units.

EU No.	Brief Description
Fossil Fuel Fired Steam Generator Units	
001	Fossil Fuel Fired Steam Generator Unit No. 1
002	Fossil Fuel Fired Steam Generator Unit No. 2
003	Fossil Fuel Fired Steam Generator Unit No. 3
004	Fossil Fuel Fired Steam Generator Unit No. 4
Simple-Cycle Combustion Turbines	
041	SCCT 4A with a common electric generator that it shares with SCCT 4B
042	SCCT 4B with a common electric generator that it shares with SCCT 4A
Solid Fuel Yard	
010	Solid Fuel Yard Fugitive Emissions
029	Fuel Blending Bin Cyclone Collectors
030	Fuel Mill Cyclone Collectors
046	Transloading and Off-site Transfer of Solid Fuels and Slag
047	Railcar Unloading and Conveying System
048	Supplemental Material Handling J3 Conveyor System
Coal Bunkers with Roto-Clones	
015	Unit No. 1 Coal Bunker with Roto-Clone
016	Unit No. 2 Coal Bunker with Roto-Clone
017	Unit No. 3 Coal Bunker with Roto-Clone
039	Unit No. 4 Coal Bunker with Roto-Clone
Limestone Handling and Storage	
012	Limestone Silo A and Baghouses (2)
013	Limestone Silo B and Baghouses (2)
023	Limestone Conveyor LB/LC and Baghouse
050	Limestone Conveyor LD/LE and Baghouse
Limestone Handling for FGD System for Units 1 & 2	
020	Limestone Conveyors LE/LF/LG/Silo C Belt Feeder Baghouse
021	Silo C and Baghouse
Wastewater Treatment Plant	
022	Lime Silo for Wastewater Treatment Plant and Baghouse
Flyash Handling and Storage - Silo Nos. 1 - 3	

DRAFT

EU No.	Brief Description
008	Fly Ash Silo No. 1 and Baghouse
009	Fly Ash Silo No. 2 and Baghouse
014	Fly Ash Silo No. 3 and Baghouse
Coal Residual Storage and Transfer from the Polk Power Station	
037	Coal Residual and Supplemental Additives Storage Facility
038	Coal Residual and Supplemental Additives Transfer System
Surface Coating Operations	
032	Surface Coating of Miscellaneous Metal Parts
Compression Ignition Internal Combustion Engines	
043	SCCT Black-Start Emergency Diesel Engine (1,495 horsepower (HP)
044	Emergency Diesel Generator (1,194 HP)
053	Emergency Diesel Generator (197 HP)

PROPOSED PROJECT

Tampa Electric applied for concurrent minor air construction permit to make minor revisions to Permit No. 0570039-074-AC that will be addressed in Permit No. 0570039-096-AC and incorporated in the Revised Title V Air Operation Permit No. 0570039-097-AV. This revision includes minor clarifications of the SO_2 emissions averaging calculations and effective date.

The following existing emissions units (EU) will be affected by this project.

EU No.	Description
001	Fossil Fuel Fired Steam Generator Unit No. 1
002	Fossil Fuel Fired Steam Generator Unit No. 2
003	Fossil Fuel Fired Steam Generator Unit No. 3
004	Fossil Fuel Fired Steam Generator Unit No. 4

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the PSD of Air Quality.
- The facility does operate units subject to New Source Performance Standards (NSPS) of Title 40, Part 60, of the Code of Federal Regulations (40 CFR 60).
- The facility does operate units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

DRAFT

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance in the Division of Air Resource Management of the Department of Environmental Protection (Department). The Office of Permitting and Compliance mailing address is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Environmental Protection Commission of Hillsborough County at: 3629 Queen Palm Drive, Tampa, Florida 33619. Phone: (813) 627-2600.

3. Appendices: The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); Appendix C (Common Conditions); and Appendix D (Common Testing Requirements).

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units 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 Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. 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.]

6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Construction and Expiration. The expiration date shown on the first page of this permit provides time to complete the physical construction activities authorized by this permit, complete any necessary compliance testing, and obtain an operation permit. Notwithstanding this expiration date, all specific emissions limitations and operating requirements established by this permit shall remain in effect until the facility or emissions unit is permanently shut down. For good cause, the permittee may request that a permit be extended. Pursuant to Rule 62-4.080(3), F.A.C., such a request shall be submitted to the Permitting Authority in writing before the permit expires. [Rules 62-4.070(3) & (4), 62-4.080 & 62-210.300(1), F.A.C.]

8. Source Obligation:

   a. Authorization to construct shall expire if construction is not commenced within 18 months after receipt of the permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. This provision does not apply to the time period between construction of the approved phases of a phased construction project except that each phase must commence construction within 18 months of the commencement date established by the Department in the permit.

   b. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

   c. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation)

DRAFT

solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

DRAFT

B. Fossil Fuel Fired Steam Generator Units 1 – 4 (EU 001 – EU 004)

This section of the permit addresses the following emissions units.

EU No.	Emission Unit Description
001	Fossil Fuel Fired Steam Generator Unit No. 1
002	Fossil Fuel Fired Steam Generator Unit No. 2
003	Fossil Fuel Fired Steam Generator Unit No. 3
004	Fossil Fuel Fired Steam Generator Unit No. 4

Units 1 through 3 each have a design electrical generating capacity of 445 MW. Unit 4 has a design electrical generating capacity of 486 MW. The fuel fired in all four units consists of coal, or a coal/petroleum coke blend containing a maximum of 20% petroleum coke by weight, or coal blended with coal residual generated from the Polk Power Station, or a coal/petroleum coke blend further blended with coal residual generated from the Polk Power Station, and on-site generated fly ash. In addition to the fuels allowed to be burned during normal operation, each unit burns new No. 2 fuel oil during startup, shutdown, flame stabilization, and during the startup of an additional solid fuel mill on an already operating unit.

For each unit, nitrogen oxide (NO_X) emissions are controlled by low-NO_X burners and a selective catalytic reduction system, particulate matter (PM) emissions are controlled by a dry electrostatic precipitator, and sulfur dioxide (SO_2) emissions are controlled by wet flue gas desulfurization (FGD). Unit 4 also has a separate over-fire air system to further control NO_X emissions. Units 1 through 4 are equipped with continuous emissions monitoring systems (CEMS) to measure NO_X, SO_2, PM, and carbon dioxide (CO_2). Unit 4 is also equipped with CEMS to measure carbon monoxide (CO). These units began operation in 1970 (Unit 1), 1973 (Unit 2), 1976 (Unit 3), and 1985 (Unit 4).

{Permitting Note: Fossil Fuel Fired Steam Generator Units 1 - 4 are regulated under: the federal Acid Rain Program for Phase II SO_2 and NO_X; Rule 62-296.405, F.A.C., Fossil Fuel Steam Generators with More than 250 million Btu per Hour Heat Input; Rule 62-296.700(6), F.A.C., Reasonable Available Control Technology (RACT) PM – Operation and Maintenance Plan; Compliance Assurance Monitoring, adopted and incorporated by reference in Rule 62-204.800, F.A.C.; Rule 62-296.470, F.A.C., Clean Air Interstate Rule; and NESHAP Subpart UUUUU, the Mercury and Air Toxics Standards, in 40 CFR 63. Unit 4 is also regulated under NSPS Subpart Da of 40 CFR 60, Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978, adopted and incorporated by reference in Rule 62-204.800(8)(b)2., F.A.C.; Rule 212.400, F.A.C., PSD.}

PREVIOUS APPLICABLE REQUIREMENTS

1. Other Permits: The conditions of this permit supersede Permit No. 0570039-074-AC. Unless otherwise specified, these conditions replace all other applicable permit conditions and regulations. [Rule 62-4.070, F.A.C.]

EMISSIONS STANDARDS

2. SO_2 Emissions Cap: The combined emissions of SO_2 from all four fossil fuel fired steam generating units (EU 001 – EU 004, combined) shall not exceed 3,162 lb/hour based on a 30-boiler operating day rolling average. Compliance with this SO_2 emissions cap shall be demonstrated by data collected from the existing SO_2 CEMS. The new emissions cap applies at all times when these units are operating including periods of startup and shutdown. The effective date of this SO_2 emissions cap is within 180 days of completing construction of the natural gas igniters and process heaters authorized by Permit No. 0570039-084-AC, but no later than June 1, 2016. [Rules 62-4.070(1) and (3), and 62-4.080(1), F.A.C.; and SO_2 Attainment SIP]

   {Permitting Note: This new emissions cap reduces SO_2 emissions and ambient impacts in and around the SO_2 non-attainment area in Hillsborough County.}

MONITORING AND COMPLIANCE REQUIREMENTS

3. SO_2 CEMS: The permittee shall use the existing SO_2 CEMS data to demonstrate continuous compliance with the SO_2 emissions cap specified in Condition **2**. The existing SO_2 CEMS shall continue to meet and follow the quality assurance and quality control requirements outlined in the facility's Title V air operation permit. [Rules 62-4.070(1) and (3), and 62-4.080(1), F.A.C.; and SO_2 Attainment SIP]

4. SO_2 Emission Rate Calculation: SO_2 emissions from all boilers combined (Units 1 – 4) shall be reported on a 30-boiler operating day rolling average in the units of lb/hour, updated after each new boiler operating day. Each 30-boiler operating day rolling average emission rate is the average of all of the valid hourly SO_2 emission rates in the 30-boiler operating day period. Boiler operating day means a 24-hour period that begins at midnight and ends the following midnight during which any fuel is combusted at any time in the boiler, including startup, shutdown or malfunction periods. It is not necessary for the fuel to be combusted the entire 24-hour period. [Rules 62-4.070(1) and (3), and 62-4.080(1), F.A.C.; SO_2 Attainment SIP; and, Application No. 0570039-096-AC]

NOTIFICATIONS AND REPORTS

5. SO_2 Emissions Cap Exceedance: If an exceedance of the SO_2 emissions cap occurs, the permittee shall notify the Compliance Authority within one business day. The permittee shall submit a report to the Compliance Authority within 15 days of occurrence detailing the nature and cause of the exceedance, describing corrective actions taken, and identifying when the unit(s) was returned to compliance. [Rules 62-4.070(1) and (3), and 62-4.080(1), F.A.C.; and SO_2 Attainment SIP]

6. SO_2 Reports: The permittee shall submit semiannual reports summarizing the SO_2 data for the reporting period and demonstrating compliance with the SO_2 emissions cap. Reports shall be submitted within 30 days following the reporting period. The first report is due by January 30, 2016. Each report shall summarize each 30-boiler operating day rolling average SO_2 emission rate during the reporting period along with any background information to explain emissions. [Rules 62-4.070(1) and (3), and 62-4.080(1), F.A.C.; and SO_2 Attainment SIP]

   {Permitting Note: The first report that is due on January 30, 2016, will be a status report on the progress of the SO_2 Emissions Reduction Project. Subsequent reports shall summarize each 30-day SO_2 emission rate and background data during the reporting period.}

DRAFT