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PERMITTEE

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

Authorized Representative:
Mr. Ronald D. Bishop, Director

Air Permit No. 0570039-071-AC (PSD-FL-040B)
Permit Expires: 06/01/2015
Minor Air Construction Permit

Big Bend Station
Minor Air Permit Revisions

PROJECT

This permit authorizes miscellaneous revisions to previously issued air construction permits. Big Bend Station is an electric generating utility classified under Standard Industrial Classification No. 4911. The existing power plant is located at 13031 Wyandotte Road, Apollo Beach in Hillsborough County, Florida. UTM Coordinates are Zone 17, 361.9 kilometers (km) East and 3075.0 km North; Latitude: 27° 47' 36" North and Longitude: 82° 24' 11" West.

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.). 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

David L. Read, P.E.
2015.02.19
13:32:13 -05'00'

for: Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Air 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 D. Bishop, Director, TEC: rdbishop@tecoenergy.com
Mr. Byron Burrows, P.E., Manager-Air Programs, TEC: btburrows@tecoenergy.com
Mr. Robert Velasco, P.E., Air Programs EHS, TEC: ravelasco@tecoenergy.com
Ms. Diana M. Lee, P.E., EPCHC: lee@epchc.org
Ms. Justin Green, DEP Siting Office: justin.b.green@dep.state.fl.us
Ms. Alisa Coe, Earth Justice: acoe@earthjustice.org
Ms. Lorinda Shepherd, EPA Region 4: shephard.lorinda@epa.gov
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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.

Lynn Scearce

2015.02.19
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FACILITY DESCRIPTION

Tampa Electric Company (TEC), 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 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 regulated emissions units (EU).

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 and 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	

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 Storage Facility
038	Coal Residual 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 HP)
044	Emergency Diesel Generator (1,194 HP)
052	Emergency Diesel Generator (349 HP)
053	Emergency Diesel Generator (197 HP)

PROPOSED PROJECT

The purpose of this project is to update and renew the TEC Title V air operation permit based on the current facility design and activities. This permit addresses the following emission units (EU) at this facility:

EU No.	Brief 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
037	Coal Residual Storage Facility
038	Coal Residual Transfer System
046	Transloading and Off-site Transfer of Solid Fuels and Slag
047	Railcar Unloading and Conveying System

This permitting action revises several conditions in underlying air construction permits primarily related to: Units 1 – 3 scrubber removal efficiency; Units 1 – 4 particulate matter (PM) and sulfur dioxide (SO_2) emission caps; coal residual storage and transfer system visible emissions testing requirements; revised the solid fuels/slag transloading rate to be based on a daily average instead of a 24-hour average; and, applied New Source Performance Standards (NSPS) Subpart Y (Coal Preparation Plants) to the railroad unloading and conveying operations as noted in the permit. This revision also includes minor changes in the language of Specific Conditions to clarify the intent of the rules and regulations.

This permitting action includes revisions to the existing construction permits shown in ~~strike through~~ format for deletions and in double underline format for additions. For ease of identification, all changes have been highlighted in yellow within this final permit document. The revisions follow the existing permits numerical order. Unless otherwise specified in this permit, the revisions to the conditions only cover the paragraphs where the changes are made and not necessarily repeat the entire conditions.

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.
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility operates units subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.
- The facility does operate units subject to NSPS of 40 Code of Federal (CFR) 60.
- The facility does operate units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

RELEVANT DOCUMENTS

Several documents shown in the following link are not a part of this permit, but helped form the basis for this permitting action. Documents related to this permitting action are posted under Permit No. 0570040-071-AC at the following web site address: http://appprod.dep.state.fl.us/air/emission/apds/default.asp

SECTION 2. ADMINISTRATIVE REQUIREMENTS

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 Blairstone 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 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(4), 62-4.080 & 62-210.300(1), F.A.C.]

8. Applicable Standards and Regulations: Except as specified in Section 3 below, the facility remains subject to all of the rules and requirements contained in all previously issued air construction permits for this facility. [Rule 62-4.070, F.A.C.]

A. 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

PERMITS BEING MODIFIED

Fossil Fuel Fired Steam Generator Units 1 – 3 (EU 001 – EU 003)

The following revisions replace the conditions in **Permit No. 0570039-060-AC.**

Section III, Subsection B, Specific Conditions 6 and 7

6. SO_2 Emissions - Unit Nos. 1 - ~~2~~3. When combusting solid fuels, Unit Nos. 1 through 3~~and 2,~~ each shall not exceed~~meet at least one of the following limits:~~
   ~~a. the scrubber shall remove at least 95% of the SO_2 in the flue gas that entered the scrubber; or,~~
   ~~b. **on and after January 1, 2013**, the "emission rate" for~~ SO_2 emissions of~~does not exceed~~ 0.25 pounds per million Btu heat input on a 30-day rolling average. ~~The term "emission rate" is specifically defined in Specific Condition A.16.1.~~
   [Applicant Request; and, Permit No. 0570039-060-AC.]

7. ~~SO_2 Emissions - Unit No. 3. When combusting solid fuels, Unit No. 3 shall meet at least one of the following limits:~~
   ~~c. the scrubber shall remove at least 95% of the SO_2 in the flue gas that entered the scrubber; or,~~
   ~~d. the "emission rate" for SO_2 does not exceed 0.25 pounds per million Btu heat input on a 30-day rolling average. The term "emission rate" is specifically defined in Specific Condition A.16.1.~~
   ~~[Applicant Request; and, Permit No. 0570039-060-AC.]~~

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

The following revision deletes the following condition in its entirety in **Permit No. 0570039-012-AC.**

Section III, Specific Condition 5

~~5. In order to provide reasonable assurance that a significant net emission rate increase will not occur as a result of combusting raw and beneficiated coal residual at Big Bend, the combined emissions from Steam Generator Units 1 – 4 shall not exceed annual emissions caps of 71,810 tons per year of SO_2 and 2,767 tons per year of PM/PM_{10}. These caps correspond to the average emissions of the years 1999 and 2000. In addition, no coal residual shall be fired in any unit when the corresponding scrubber is not in operation.~~

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

The following revision revises the following condition in **Permit No. PSD-FL-040.**

Part I (Specific Conditions), Table 1

Table 1. Allowable Emission Limits

Facility	SO_2	
	lb/MMBtu	lb/hour
1. Unit 4 Boiler (4,330 MMBtu/hour) Continuous Limit 30-Day Rolling Average	0.82	~~3576~~

B. Coal Residual Storage and Transfer System (EU 037 and EU 038)

This section of the permit addresses the following emissions units.

EU No.	Emission Unit Description
037	Coal Residual Storage Facility
038	Coal Residual Transfer System

PERMITS BEING MODIFIED

The following revisions revises the following conditions in **Permit No. 0570039-012-AC.**

Section III, Specific Conditions 7, 11 through 14.

7. Visible emissions from the storage facility and transfer system shall not exceed ~~5~~20% opacity ~~in lieu of particulate sampling~~. *{Permitting Note: "Unconfined Emissions" are defined in Rule 62-210.200 F.A.C., and Rule 1.3.12 EPCHC, as "Emissions which escape and become airborne from unenclosed operations or which are emitted into the atmosphere without being conducted through a stack." Based on this definition, emissions from operations related to the transportation of the material to an enclosed building are considered unconfined emissions subject only to the general 20% opacity standard. VE testing is not required for these unconfined fugitive emissions. The conveyors and static conveyor drop/transfer points are generically subject to 5% opacity. TECO is able to meet this limit by maintaining the required enclosures and by following best operating practices; therefore, additional add-on PM control devices are not needed. Because the conveyor is fully enclosed with no emissions to the atmosphere, VE testing is not required.}*
[Rule 62-297.620(4), F.A.C.]

~~11. Tampa Electric shall perform annual visible emissions tests for the storage facility and transfer system. Sites to be tested shall be determined by EPC after the additional information required by specific condition no. 10 above has been submitted by TEC.~~

~~12. Compliance with the allowable visible emissions limitation shall be determined by using the following reference method as described in 40 CFR 60, Appendix A, adopted by reference in Chapter 62-204, F.A.C.:~~

~~Method 9 – Visual Determination of the Opacity of Emissions from Stationary Sources.~~

13. TEC shall keep records of the following parameters for each specific month/day/year:
    A) Amount of raw coal residual charged (tons/day and tons/year)
    B) Amount of refined/beneficiated coal residual charged (tons/day and tons/year)

~~14. TEC shall also keep records of:~~
~~A) Annual amount of raw coal residual charged (tpy)~~
~~B) Annual amount of refined/beneficiated coal residual charged (tpy)~~
C) ~~Annual VE tests~~.

C. Transloading and Off-Site Transfer of Solid Fuels and Slag (EU 046)

This section of the permit addresses the following emissions unit.

EU No.	Emission Unit Description
046	Transloading and Off-site Transfer of Solid Fuels and Slag (by truck, rail and barge)

PERMITS BEING MODIFIED

The following revision revises the following condition in **Permit No. 0570039-059-AC.**

Section III, Subsection A, Specific Condition A.3.

A.3. Permitted Capacity. The maximum solid fuels/slag transloading rate for EU 046 shall not exceed 4,000 tons/hour on a ~~24-hour~~daily average and a total of 1,853,030 tons per year for all solid fuel and slag materials transloaded onto trucks, railcars and barges for shipment off-site.
[PA 79-12C and Permit No. 0570039-059-AC]

D. Railcar Unloading and Conveying System (EU 047)

This section of the permit addresses the following emissions unit.

EU No.	Emission Unit Description
047	Railcar Unloading and Conveying System

PERMITS BEING MODIFIED

The following revisions revises the following conditions in **Permit No. 0570039-041-AC.**

Section III, Specific Conditions 8 and 11

8. Opacity: ~~As determined by EPA Method 9,~~ v~~V~~isible emissions from the railcar coal unloading system shall not exceed ~~20~~10% opacity. Equipment used in the loading, unloading, and conveying operations of open storage piles are not subject to the 10% opacity limitation. [40 CFR 60, Subpart Y (Standards of Performance for Coal Preparation Plants)]

   ~~*{Permitting Note: In addition, the requirements in 40 CFR 60, New Source Performance Standard (NSPS) Subpart Y for Coal Preparation Plants, have been proposed to be amended on April 28, 2008 and would be applicable to all sources addressed in this standard and constructed after that date. These amended standards, including installing a baghouse on the railcar unloading building may become applicable to this project when these standards become final and are adopted in the Florida rules.}*~~

11. ~~Annual~~VE Compliance Requirement~~Tests~~: ~~During each federal fiscal year (October 1st to September 30th) , the Railcar Coal Unloading Building vents shall be tested to demonstrate compliance with the emissions standard for visible emissions.~~The coal processing and conveying equipment (e.g., breakers, crushers, screens, conveying systems), coal storage systems, or coal transfer and loading systems are enclosed in a building, and emissions from the building do not exceed the 10% opacity standard, then the facility shall be deemed to be in compliance with such standards. [~~Rule 62-297.310(7)(a)4, F.A.C.~~40 CFR 60.255(c).]