



# Florida Department of Environmental Protection

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## PERMITTEE

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

Authorized Representative:  
Mr. Ronald Bishop, Director

Air Permit No. 0570039-108-AC  
Permit Expires: January 1, 2021  
Minor Air Construction Permit  
Big Bend Station  
SCCT 4A/4B: Removal of CO Catalyst

## PROJECT

This is the final air construction permit, which authorizes the removal of the carbon monoxide (CO) oxidation catalysts from each of the two simple cycle combustion turbines (SCCT) 4A and 4B. The proposed work will be conducted at the existing Big Bend Station, which is an electric generation facility, which is categorized under Standard Industrial Classification Code No. 4911. The existing facility is located in Hillsborough County at 13031 Wyandotte Road in Gibsonton, 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

*For:*

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

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## FINAL PERMIT

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### 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, TEC, Director Big Bend Station: [rdbishop@tecoenergy.com](mailto:rdbishop@tecoenergy.com)

Mr. Byron Burrows, TEC: [btburrows@tecoenergy.com](mailto:btburrows@tecoenergy.com)

Mr. Robert Velasco, P.E., TEC: [ravelasco@tecoenergy.com](mailto:ravelasco@tecoenergy.com)

Ms. Diana Lee, EPCHC: [lee@epchc.org](mailto:lee@epchc.org)

DEP Siting Office: [SCO@dep.state.fl.us](mailto:SCO@dep.state.fl.us)

Ms. Alisa Coe, Earth Justice: [acoe@earthjustice.org](mailto:acoe@earthjustice.org)

Ms. Lynn Searce, DEP OPC: [lynn.searce@dep.state.fl.us](mailto:lynn.searce@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.

## SECTION 1. GENERAL INFORMATION

### 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 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
<i>Regulated Emissions Units</i>	
<i>Fossil Fuel Fired Steam Generator Units</i>	
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
<i>Simple-Cycle Combustion Turbines</i>	
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
<i>Solid Fuel Yard</i>	
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
<i>Coal Bunkers with Roto-Clones</i>	
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
<i>Limestone Handling and Storage</i>	
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
<i>Limestone Handling for FGD System for Units 1 &amp; 2</i>	
020	Limestone Conveyors LE/LF/LG/Silo C Belt Feeder Baghouse
021	Silo C and Baghouse
<i>Wastewater Treatment Plant</i>	
022	Lime Silo for Wastewater Treatment Plant and Baghouse

## SECTION 1. GENERAL INFORMATION

EU No.	Brief Description
<i>Flyash Handling and Storage - Silo Nos. 1 - 3</i>	
008	Fly Ash Silo No. 1 and Baghouse
009	Fly Ash Silo No. 2 and Baghouse
014	Fly Ash Silo No. 3 and Baghouse
<i>Coal Residual Storage and Transfer from the Polk Power Station</i>	
037	Coal Residual and Supplemental Additives Storage Facility
038	Coal Residual and Supplemental Additives Transfer System
<i>Surface Coating Operations</i>	
032	Surface Coating of Miscellaneous Metal Parts
<i>Compression Ignition (CI) Internal Combustion Engines (ICE)</i>	
043	SCCT Black-Start Emergency Diesel Engine (1,495 HP)
044	Units 3 & 4 Emergency Diesel Generator (1,046 HP)
053	Units 1 & 2 Emergency Diesel Generator (197 HP)
<i>Unregulated Emissions Units and/or Activities</i>	
036	Slag and Bottom Ash Sources BH-001 through BH-004
	Gypsum Handling and Storage Sources GH-001 through GH-017
	No. 2 Fuel Oil Storage Tanks > 550 gallons
	Vehicle Refueling Operations
045	FGD Area Emergency Diesel Generator (550 HP) and Fire Pump Diesel Engine (596 HP)

### PROPOSED PROJECT

Tampa Electric Company applied for a minor air construction to remove the oxidation catalysts from each SCCT (4A and 4B) for the following reasons:

- The catalyst restricts maximum generator output, particularly during the winter months or high-power demand periods; and,
- The operational and maintenance costs associated with the catalyst.

This project will modify the following emissions units.

Facility ID No. 0570039	
ID No.	Emission Unit Description
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

### 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.

## **SECTION 1. GENERAL INFORMATION**

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- 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.

## SECTION 2. ADMINISTRATIVE REQUIREMENTS

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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. 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.
  - 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 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.]

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## SECTION 2. ADMINISTRATIVE REQUIREMENTS

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9. Application for Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V air operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation without the oxidation catalysts. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050 and Chapter 62-213, F.A.C.]
10. Actual Emissions Reporting: This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.
- a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 10 years following resumption of regular operations after removing the CO oxidation catalyst. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.
  - b. The permittee shall report to the Department within 60 days after the end of each calendar year during the 10-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:
    - (1) The name, address and telephone number of the owner or operator of the major stationary source;
    - (2) The annual emissions calculations pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;
    - (3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and
    - (4) Any other information that the owner or operator wishes to include in the report.
  - c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

For this project, the permit requires the annual reporting of actual annual CO emissions using the CO CEMS data for the following units: EU 041 – SCCT 4A and EU 042 – SCCT 4B.

[Application 0570039-108-AC; and Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### A. Simple Cycle Combustion Turbines Units 4A and 4B (EU 041 and EU 042)

This section of the permit addresses the following emissions units.

EU No.	Emission Unit Description
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

*{Permitting Note: These units began commercial operation on August 15, 2009. The generator nameplate rating for SCCT 4A and 4B is 31 MW each, 62 MW total. Each unit has a separate, but identical, stack with the following parameters: Stack height = 60 feet; exit diameter = 9.5 feet; exit temperature = 893 degrees Fahrenheit (°F); and, actual volumetric flow rate = 430,737 actual cubic feet per minute (acfm). NO<sub>x</sub> emissions from SCCT 4A and 4B are controlled by steam or water injection.}*

### PREVIOUS APPLICABLE REQUIREMENTS

1. Other Permits: The conditions of this permit supplement all previously issued air construction and operation permits for SCCT 4A and 4B. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions and regulations. [Rule 62-4.070, F.A.C.]

### EMISSIONS STANDARDS

2. CO Emissions Cap. The combined emissions of CO from each SCCT (EU 041 – EU 042, combined) shall not exceed 93.6 tons per year based on a 12-month operating total. Compliance with this CO emissions cap shall be demonstrated by data collected from the existing CO CEMS. The new emissions cap applies at all times when these units are operating including periods of startup and shutdown. [Rules 62-4.070(1) and (3), and 62-4.080(1), F.A.C.]

### PERMITS BEING MODIFIED

The following revisions replace the conditions in **Permit Nos. 0570039-040-AC**.

#### Section III, Specific Condition 3

3. SCCT 4A and SCCT 4B: The permittee is authorized to install, operate and maintain one **PWPS FT8-3@ SwiftPac®** aeroderivative CT-generator peaking unit. SCCT 4A and SCCT 4B will be coupled to one common generator having a nominal gross generation capacity of 62 MW. Each SCCT will be equipped with water injection to minimize NO<sub>x</sub> emissions **and an oxidation catalyst to minimize CO and VOC emissions**. Each SCCT will only be operated in the simple cycle mode. Each SCCT will be allowed to fire pipeline-quality natural gas (NG) and ultra-low sulfur diesel fuel (ULSD). [**Application; and Rules 62-210.200(Definitions-Potential to Emit (PTE)) and 62-4.070(3), F.A.C.; Permit No. 0570039-040-AC; and, Application No. 0570039-108-AC**]

#### Section III, Specific Condition 5

5. Oxidation Catalyst: The permittee shall install, operate, and maintain an oxidation catalyst system to reduce CO and VOC emissions from each SCCT. The system shall be maintained and operated in accordance with the manufacturer's recommendations or determined best practices to minimize emissions. [**Applicant request and Rule 62-4.070(3), F.A.C.**]

#### Section III, Specific Condition 6

6. Hours of Operation: SCCT 4A and SCCT 4B are allowed to operate in the peaking service mode for no more than **3,500 2,400** hr/calendar year each, including no more than 500 hr/calendar year each on ULSD. Any hour used to fire ULSD will decrease an hour that could have been used to fire NG. [**Applicant request; and Rules 62-4.070(3), 62-210.200(Definitions-PTE) and 62-212.400(PSD), F.A.C.; Permit No. 0570039-040-AC; and, Application No. 0570039-108-AC**]



## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### A. Simple Cycle Combustion Turbines Units 4A and 4B (EU 041 and EU 042)

#### Section III, Specific Condition 33

33. Fuel Sulfur Records: The permittee shall demonstrate compliance with the fuel sulfur limits specified in this permit by maintaining the following records of the sulfur contents.
- Natural Gas Sulfur Limit*: Compliance with the fuel sulfur limit for natural gas shall be demonstrated by keeping reports obtained from the vendor indicating the average sulfur content of the natural gas being supplied from the pipeline for each month of operation. A representative sample shall be collected using ASTM D5287. Methods for determining the sulfur content of the natural gas shall be ASTM methods D1072, or alternatively D3246, D4084, D4468, D4810, D6228, D6667, or Gaseous Processors Association Standard 2377, or more recent versions, or through provisions listed in 40 CFR 60, Subpart KKKK that allows alternate NG fuel sulfur monitoring. The permittee will monitor SO<sub>2</sub> emissions per 40 CFR 75, Appendix D procedures using fuel sulfur content and fuel flow rates.
  - ULSD Fuel Sulfur Limit*: Compliance with the fuel sulfur limit for ULSD fuel shall be demonstrated by keeping each bill of lading report obtained from the vendor indicating the sulfur content, percent by weight, of the ULSD fuel being delivered. A representative sample shall be collected using ASTM D5287. Methods for determining the sulfur content of the ULSD fuel shall be ASTM methods D1072, or alternatively D3246, D4084, D4468, D4810, D6228, D6667, or Gaseous Processors Association Standard 2377, or more recent versions, or through provisions listed in 40 CFR 60, Subpart KKKK that allows alternate sulfur monitoring for ULSD.

The above methods shall be used to determine the fuel sulfur content in conjunction with the provisions of 40 CFR 60.4415. [Rules 62-4.070(3) and 62-4.160(15), F.A.C.; 40 CFR 60.4365 & 60.4415; and Appendix G of this permit No. 0570039-040-AC; and Application No. 0570039-108-AC]

#### Section III, Specific Condition 36

#### 36. Excess Emissions Reporting:

- Malfunction Notification*: If emissions in excess of a standard (subject to the specified averaging period) occur due to malfunction, the permittee shall notify the Compliance Authority within (1) working day of in accordance with Rule 62-4.130, F.A.C.: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident.
- SIP Excess Emissions Report*: Within 30 days following the end of each calendar quarter, the permittee shall submit a report to the EPCHC summarizing periods of CO emissions in excess of the permit emission standards, the RATA tests performed and the amount of authorized data excluded by following the format in Figure 1 of the appendices section. Periods of startup, shutdown, malfunction, fuel switching and tuning shall be monitored and recorded at all times. In addition, the report shall summarize the CEMS systems monitor availability for the previous quarter, the Compliance Authority of the following for each gas turbine using the NSPS format in 40 CFR 60.7(e), Subpart A: a summary of the 4-hour rolling average NO<sub>x</sub> compliance periods for the quarter; a summary of the 3-hour rolling average CO compliance periods for the quarter; a summary of NO<sub>x</sub> and CO data excluded for the quarter; a summary of any RATA tests performed during the quarter; and a summary of the CEMS systems monitor availability for the quarter.  
(1) If four consecutive quarterly reports demonstrate compliance with the CEMS-based emissions standards, the reporting frequency may be reduced to semiannual reporting. As part of the fourth consecutive satisfactory quarterly report, the permittee shall provide written notification of its intent to reduce the reporting frequency to a semiannual basis. The notification shall include a statement that the units were in full compliance during the four consecutive quarters and that reporting will be reduced to a semiannual basis. Semiannual reports shall include above information required for

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### A. Simple Cycle Combustion Turbines Units 4A and 4B (EU 041 and EU 042)

each quarter in the semiannual period. The permittee shall continue to comply with all other record keeping and monitoring provisions.

(2) If reports are being submitted on a semiannual basis and a unit is not in compliance with the CEMS based emissions standards, the permittee shall immediately (within one day of detection) notify the Compliance Authority of the compliance status and reestablish quarterly reporting beginning with the current quarter. If compliance is reestablished for four consecutive quarters, semiannual reporting may resume as specified above.

- c. NSPS Semi-Annual Excess Emissions Reporting: For purposes of reporting emissions in excess of NSPS Subpart KKKK, excess NO<sub>x</sub> emissions are defined as any unit operating period in which the 4-hour rolling average NO<sub>x</sub> emission rate exceeds the applicable emission limit found in 40 CFR 60.4320 and 60.4325. Excess SO<sub>2</sub> emissions from the SCCT occur when the total sulfur content of the fuel being combusted in the SCCT exceeds the limit specified in 40 CFR 60.4330(a). Within thirty (30) days following each calendar semi-annual period, the permittee shall submit a report on any periods of excess emissions that occurred during the previous semi-annual period to EPCHC. The permittee must submit reports of excess emissions and monitor downtime, in accordance with 40 CFR 60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown and malfunction. For each affected unit required to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content under 40 CFR 60, Subpart KKKK, the owner or operator must submit reports of excess emissions and monitor downtime, in accordance with 40 CFR 60.7(e). Excess emissions must be reported for all periods of unit operation, including start up, shutdown and malfunction.

{Note: If there are no periods of excess emissions as defined in 40 CFR 60, Subpart KKKK, a statement to that effect may be submitted with the SIP Quarterly Report to suffice for the NSPS Semiannual Report.}

[Rules 62-4.070(3), 62-4.130, 62-204.800 and 62-210.700(65), F.A.C.; and 40 CFR 60.7 and 60.4375; and Application No. 0570039-108-AC]

The following revisions replace the conditions in **Permit Nos. 0570039-040-AC and 0570039-066-AC.**

#### Section III, Specific Condition 10

10. Emission Standards: Emissions from each SCCT shall not exceed the following NSPS and State Implementation Plan (SIP) standards.

Pollutant	Fuel	Emission Standard <sup>e</sup>	Averaging Time	Compliance Method	Basis
NO <sub>x</sub> <sup>a</sup>	NG	25.0 ppmvd @ 15% oxygen (O <sub>2</sub> ) (NSPS) <sup>f</sup>	4-hr rolling avg <sup>g</sup>	CEMS	40 CFR 60.4320
		96 ppmvd @ 15% O <sub>2</sub> (NSPS)	4-hr rolling avg	CEMS	40 CFR 60.4325
	ULSD	74 ppmvd @ 15% O <sub>2</sub> (NSPS)	4-hr rolling avg	CEMS	40 CFR 60.4325
		96 ppmvd @ 15% O <sub>2</sub> (NSPS)	4-hr rolling avg	CEMS	40 CFR 60.4325
	NG and ULSD	25.0 ppmvd @ 15% O <sub>2</sub> (NSPS) <sup>f</sup>	4-hr rolling avg <sup>g</sup>	CEMS	40 CFR 60.4325
		or 74 ppmvd @ 15% O <sub>2</sub> (NSPS) and < 75% Load: 96 ppmvd @ 15% O <sub>2</sub> (NSPS)			

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### A. Simple Cycle Combustion Turbines Units 4A and 4B (EU 041 and EU 042)

Pollutant	Fuel	Emission Standard <sup>e</sup>	Averaging Time	Compliance Method	Basis
CO <sup>b</sup>	NG	<del>21.0</del> 210 ppmvd @ 15% O <sub>2</sub> (SIP)	3-hr rolling avg	CEMS	Applicant requested Rule 62-4.070(3), F.A.C.
	ULSD	<del>5.1</del> 51 ppmvd @ 15% O <sub>2</sub> (SIP)	3-hr rolling avg	CEMS	Applicant requested Rule 62-4.070(3), F.A.C.
Visible Emissions <sup>c</sup>		10 % Opacity (SIP)	6-minute block	Visible Emissions Test	Applicant requested Rule 62-4.070(3), F.A.C.
PM <sup>e</sup>		NG: 2.0 gr S/100 scf (SIP) ULSD: 0.0015% S content, by wt (SIP)	N/A	Recordkeeping	Vendor data of analyses
SO <sub>2</sub> <sup>d</sup>	NG	NG: 2.0 gr S/100 scf (SIP) 0.90 lb/MWh/SCCT gross output <sup>d</sup> (NSPS) or 0.060 lb/MMBtu/SCCT heat input <sup>d</sup> (NSPS)	N/A	Demonstration of fuel combusted and vendor data of analyses	Applicant requested 40 CFR 60.4330(a)(1) 40 CFR 60.4330(a)(2)
	ULSD	ULSD: 0.0015% S content, by wt (SIP) 0.90 lb/MWh/SCCT gross output <sup>d</sup> (NSPS) or 0.060 lb/MMBtu/SCCT heat input <sup>d</sup> (NSPS)			Applicant requested 40 CFR 60.4330(a)(1) 40 CFR 60.4330(a)(2)

- a. The permittee shall conduct initial and annual tests [Relative Accuracy Test Audit (RATA)] on each SCCT to demonstrate compliance with the short-term NO<sub>x</sub> emission limits [ppmvd @ 15% O<sub>2</sub>] per fuel type. Thereafter, continuous compliance shall be demonstrated with the 4-hour rolling average NO<sub>x</sub> emission limits by data collected from the required continuous emissions monitoring system (CEMS). When firing both NG and ULSD, compliance with the NSPS limit is ensured depending on the contribution of the fuels of the total heat input: if the total heat input contribution is equal to or greater than 50 percent from NG, you must meet the corresponding limit for a NG-fired turbine when you are burning that fuel; similarly, when your total heat input contribution is greater than 50 percent from ULSD, you must meet the corresponding limit for ULSD for the duration of the time that you burn that particular fuel. When operating the SCCT at less than 75% of peak load the NSPS limit of 96 ppmvd @ 15% O<sub>2</sub> shall be met.
- b. The permittee shall conduct an initial test on each SCCT to demonstrate compliance with the short-term [ppmvd @ 15% O<sub>2</sub>] CO emission limits per fuel type. Thereafter, continuous compliance shall be demonstrated with the 3-hour rolling average CO emission limits by data collected by the required CEMS. CO will be used as a surrogate for VOC emissions as a demonstration of good combustion.
- c. The sulfur fuel specification combined with the efficient combustion design and operation of the turbines should minimize PM emissions (PM emissions are a surrogate for PM<sub>10</sub> emissions) as well as visible emissions. No stack tests are required. Compliance with the fuel specifications, CO standards, and visible emissions standards shall serve as indicators of good combustion. *{Permitting Note: Maximum expected PM/PM<sub>10</sub> emissions from each turbine are approximately 2.5 and 7.5 lb/hr for NG and ULSD, respectively.}*

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### A. Simple Cycle Combustion Turbines Units 4A and 4B (EU 041 and EU 042)

- d. The fuel sulfur specifications effectively limit the potential emissions of SO<sub>2</sub> (and essentially sulfuric acid mist). For compliance purposes, the permittee elected to demonstrate that the fuel combusted will not exceed the potential sulfur emissions of 0.060 lb SO<sub>2</sub>/MMBtu heat input (see Appendix G of the permit). *{Permitting Note: Maximum expected SO<sub>2</sub> emissions from each turbine are approximately 1.9 lb/hr and 0.5 lb/hr for NG and ULSD, respectively.}*
- e. The mass emission rate standards are based on a turbine inlet temperature condition of 59 °F, evaporative cooling on, and using the HHV of the fuel. Mass emission rate may be adjusted to actual test conditions in accordance with the performance curves and/or equations on file with the Department.
- f. 40 CFR 60, Subpart KKKK as described in 40 CFR 60.4320(a).
- g. 40 CFR 60, Subpart KKKK as described in 40 CFR 60.4350(g).

*{Permitting Note: In combination with the annual restriction on hours of operation, the above emissions standards effectively limit annual potential emissions from both gas turbines to: 16.5 tons/year of CO, 141.2 tons/year of NO<sub>x</sub>, 11.3 tons/year of PM/PM<sub>10</sub>, 6.6 tons/year of SO<sub>2</sub>, 0.8 tons/year of SAM, and 4.7 tons/year of VOC. The natural gas CO limit of 210 ppmvd @ 15% O<sub>2</sub> and No. 2 fuel oil limit of 51 ppmvd @ 15% O<sub>2</sub> are based on the maximum emission rate at 50% load, 20°F air temperature and 90% CO catalyst removal efficiency to demonstrate compliance only with the maximum, 3-hour rolling limit [ECT Application No. 071286-0100, dated August 2008]}*

*[Applicant requested: Rules 62-4.070(3), 62-210.200(Definitions-PTE) and 62-212.400(PSD), F.A.C.; and 40 CFR 60, Subpart KKKK; Permit Nos. 0570039-040-AC & 0570039-066-AC; and, Application No. 0570039-108-AC]*

#### Section III, Specific Condition 16

16. **Annual Compliance Testing:** During each federal fiscal calendar year (October/January 1<sup>st</sup> to September 30<sup>th</sup>/December 31<sup>st</sup>), each SCCT shall be tested to demonstrate compliance with the emission standard for opacity if the SCCT fired ULSD fuel more than 400 hours/year. Unless specifically requested by the Compliance Authority pursuant to Rule 62-297.310(7)(b8)(a), F.A.C., periodic opacity tests are not required when firing natural gas. Any SCCT that did not fire ULSD fuel for more than 400 hours/year shall conduct a visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit. Emissions of CO and NO<sub>x</sub> recorded by the CEMS shall also be reported. [Rules 62-297.310(78)(a) and (b), F.A.C. and Appendix D of this permit Permit Nos. 0570039-040-AC & 0570039-066-AC; and, Application No. 0570039-108-AC]