

# Florida Department of Environmental Protection

## Memorandum

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TO: Joseph Kahn, Division of Air Resource Management

THROUGH: Trina Vielhauer, Bureau of Air Regulation

THROUGH: Syed Arif, New Source Review Section SA 113  
REM

FROM: Bruce Mitchell, New Source Review Section

DATE: January 12, 2009

SUBJECT: Project No. 0570040-026-AC  
Revision to Permit No. 0570040-024-AC  
Tampa Electric Company  
H.L. Culbreath Bayside Power Station  
Simple Cycle Combustion Turbine-Generator Peaker Project

Tampa Electric Company operates the existing H.L. Culbreath Bayside Power Station in Hillsborough County located at 3602 Port Sutton Road in Tampa, Florida. This project made minor changes to several specific conditions of the final air construction permit, No. 0570040-024-AC, issued September 29, 2008. Included in the changes is to recognize that there will be only one emergency generator installed instead of two. Since there will be no increase in pollutant emissions, the project is considered a minor modification to a major facility. An air quality impact analysis was not required.

There were no comments received during the Public Notice period. However, an edit was made in a "Note" to a specific condition (changed "Quarterly" to "Semi-Annual") due to an edit made in the same specific condition. I recommend your approval of the attached Final Permit Revision (letter) for this project.

Attachments

**STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**NOTICE OF FINAL PERMIT REVISION**

In the Matter of an  
Application for Permit Revision by:

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

Project No. 0570040-026-AC  
H.L. Culbreath Bayside Power Station  
Simple Cycle Combustion Turbine- Generator  
Peaker Project

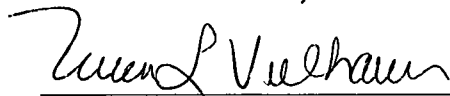
*Authorized Representative:*

Mr. David M. Lukcic, Manager of Environmental Programs

Tampa Electric Company operates the existing H.L. Culbreath Bayside Power Station in Hillsborough County located at 3602 Port Sutton Road in Tampa, Florida. This project made minor changes to several specific conditions of the final air construction permit, No. 0570040-024-AC, issued September 29, 2008. Included in the changes is to recognize that there will be only one emergency generator installed instead of two. Since there will be no increase in pollutant emissions, the project is considered a minor modification to a major facility. An air quality impact analysis was not required. This permit revision is issued pursuant to Chapter 403, Florida Statutes (F.S.).

Any party to this order has the right to seek judicial review of it under Section 120.68, F.S., 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



Trina L. Vielhauer, Chief  
Bureau of Air regulation

1/14/09

(Date)

TLV/sa/bm

**NOTICE OF FINAL PERMIT REVISION**

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**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Final Permit Revision (including the Final Determination and the Final Permit Revision) 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 1/16/09 to the persons listed below.

- Mr. David M. Lukcic, Tampa Electric Company ([dmlukcic@tecoenergy.com](mailto:dmlukcic@tecoenergy.com))
- Mr. Byron T. Burrows, Tampa Electric Company ([btburrows@tecoenergy.com](mailto:btburrows@tecoenergy.com))
- Mr. Andrew T. Nguyen, Tampa Electric Company ([atnguyen@tecoenergy.com](mailto:atnguyen@tecoenergy.com))
- Ms. Laurie A. Pence, Tampa Electric Company ([lapence@tecoenergy.com](mailto:lapence@tecoenergy.com))
- Mr. Thomas W. Davis, P.E., Environmental Consulting & Technology, Inc. ([tdavis@ectinc.com](mailto:tdavis@ectinc.com))
- Mr. Mike Halpin, Office of Siting Coordination ([mike.halpin@dep.state.fl.us](mailto:mike.halpin@dep.state.fl.us))
- Mr. Jerry Campbell, Hillsborough County Environmental Protection Commission ([campbell@epchc.org](mailto:campbell@epchc.org))
- Ms. Diana Lee, Hillsborough County Environmental Protection Commission ([Lee@epchc.org](mailto:Lee@epchc.org))
- Ms. Pwu-Sheng Liu, Hillsborough County Environmental Protection Commission ([LiuP@epchc.org](mailto:LiuP@epchc.org))
- Ms. Vickie Gibson, DEP-BAR ([Victoria.Gibson@dep.state.fl.us](mailto:Victoria.Gibson@dep.state.fl.us)) (for read file)

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.

  
\_\_\_\_\_  
(Clerk)

1/16/09  
\_\_\_\_\_  
(Date)

a. *Excess Emissions.* For purposes of SIP-based permit limits, excess emissions data collected during periods of startup, and shutdown and malfunction may be excluded as follows: from compliance calculations as allowed by the permit standards.

1. *Startup:* In accordance with the procedures described in the CEMS Data Requirements of this section, no more than the first 10 minutes of CEMS data shall be excluded for each gas turbine startup. For startups of less than 10 minutes in duration, only those minutes attributable to startup shall be excluded.

2. *Shutdown:* In accordance with the procedures described in the CEMS Data Requirements of this section, no more than the first 10 minutes of CEMS data shall be excluded for each gas turbine shutdown. For shutdowns less than 10 minutes in duration, only those minutes attributable to shutdown shall be excluded.


3. *Malfunction:* In accordance with the procedures described in the CEMS Data Requirements of this section, no more than 120 minutes of CEMS data shall be excluded in a 24-hour period for each gas turbine due to malfunctions. Within one (1) working day of occurrence, the owner or operator shall notify the Compliance Authority of any malfunction resulting in the exclusion of CEMS data.

The permittee shall notify the Compliance Authority within one working day of discovering any emissions in excess of a CEMS standard subject to the specified averaging period. All such reasonably preventable emissions shall be included in any CEMS compliance determinations. All valid emissions data (including data collected during startup, shutdown and malfunction) shall be used to report annual emissions for the Annual Operating Report. [Rules 62-4.070(3), 62-210.200, 62-210.370(3) and 62-210.700(4), F.A.C.]

A copy of this letter and attachments shall be filed with the referenced permit and shall become part of the permit. This permitting decision is issued pursuant to Chapter 403, Florida Statutes (F.S.).

Any party to this permitting decision (order) has the right to seek judicial review of it under section 120.68, F.S., 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.

  
\_\_\_\_\_  
Joseph Kahn, Director  
Division of Air Resource Management

1/15/09  
\_\_\_\_\_  
Date



# Florida Department of Environmental Protection

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

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

January 15, 2009

*Sent by Electronic Mail – Received Receipt Requested*

Mr. David M. Lukcic  
Manager Environmental Projects  
Tampa Electric Company  
P.O. Box 111  
Tampa, Florida 33601-0111

Re: Final Air Construction (AC) Permit Revision Project No. 0570040-026-AC  
Revision of Permit Project No. 0570040-024-AC  
H.L. Culbreath Bayside Power Station  
Simple Cycle Combustion Turbine-Generator Peaker Project

Dear Mr. Lukcic:

The Department received a request from Mr. Byron Burrows on October 10, 2008, for a revision of permit, No. 0570040-024-AC, for eight simple cycle combustion turbines (SCCT), four common electrical generators and two emergency diesel engine/generator sets at the existing H.L. Culbreath Bayside Generating Station located in Tampa, Hillsborough County. The AC permit was issued on September 29, 2008. Two SCCT are coupled to one common generator (a Pratt Whitney FT8-3® SwiftPac® aeroderivative combustion turbine/generator peaking unit), which has a nominal gross generation capacity of 62 megawatts (MW).

Based on the above documents and details explained in the technical evaluation and preliminary determination, the Department is agreeable to revise AC permit No. 0570040-024-AC as follows. Please note that double underlined words are additions and strikethrough words are deletions.

I. Section I. General Information.

A. Facility Description. Paragraph 3.

The regulated emissions units at the Bayside facility include the following: seven natural gas-fired (CT)/HRSG combined-cycle (CC) units that operate in conjunction with the existing steam turbines of Gannon's Units 5 and 6; an existing 14 MW SCCT; and an eight million gallon distillate oil storage tank. The seven CT/HRSG units are each manufactured by General Electric (GE), Model PG7241 FA, and produce a nominal 169 MW of shaft-driven electricity; and the associated HRSG are unfired. They are grouped into two units designated as Units 1 and 2, which repowered Gannon's Units 5 and 6, respectively. Unit 1 includes three CT/HRSG CC units designated as CT-1A, CT-1B, and CT-1C, with a steam-electric nameplate rating of 239 MW. Unit 2 includes four CT/HRSG CC units designated as CT-2A, CT-2B, CT-2C, and CT-2D, with a steam-electric nameplate rating of 414 MW. The CT only operate in the CC mode (i.e., the HRSG are not equipped with bypass stacks). The facility utilizes pipeline-quality natural gas as its primary fuel source with distillate fuel oil serving as a backup fuel. These emissions units are Acid Rain Units and are regulated under the Florida Electrical Power Plant Siting Act.

B. Project Description. Paragraph 2.

The project will also include the construction of two one 800,000 kilowatt (kW) emergency diesel engine/generator sets. Excluding emergency conditions, each the diesel engine/generator set will be

operated for approximately two hours per week (100 hr/yr) for routine testing and maintenance purposes. The emergency diesel engines will be fired with ultra low sulfur diesel (ULSD) fuel oil. Under this proposal, the maximum total ULSD fuel oil usage is ~~11,440~~12,700 gallons per year (gal/yr) and entitles them to a categorical exemption in Rule 62-210.300(3)(a)35.d., F.A.C., One or More Emergency Generators Located Within a Single Facility, because ~~they~~it will burn only one fuel type and collectively fire no more than 32,000 gal/yr.

- C. New Emissions Units (EU). Paragraphs 1 and 2. Air Resource Management System (ARMS) and Facility EU Identification (ID) Numbers.

ARMS EU ID Numbers	Facility EU ID Numbers
-031	Unit 3: <u>SCCT 3A &amp; 3B</u>
-032	Unit <del>43</del> : <u>SCCT 4A &amp; 4B3B</u>
-033	Unit <del>54</del> : <u>SCCT 5A &amp; 5B4A</u>
-034	Unit <del>64</del> : <u>SCCT 6A &amp; 6B4B</u>
-035	<del>One 800 kW Emergency Diesel Engine/Generator Set</del> Unit 5: <u>SCCT 5A</u>
-036	<del>One 800 kW Emergency Diesel Engine/Generator Set</del> Unit 5: <u>SCCT 5B</u>
<u>-037</u>	Unit 6: <u>SCCT 6A</u>
<u>-038</u>	Unit 6: <u>SCCT 6B</u>
<u>-039</u>	One 1,000 kW Emergency Diesel Engine/Generator Set

II. Section III. Emissions Unit Specific Conditions.

A. Header.

**SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS**  
**PWPS FT8-3® SwiftPac® SCCT/Generator Peaking Units 3 Thru 6 (EU 031 thru ~~034~~038)**

B. Emissions Unit ARMS ID and Description.

The specific conditions of this subsection apply to the following emissions units after construction is complete.

ARMS ID	Emission Unit Description
031	Unit 3: <u>SCCT 3A &amp; 3B</u> : One PWPS FT8-3® SwiftPac® aeroderivative SCCT/generator peaking unit
032	Unit <del>43</del> : <u>SCCT 4A &amp; 43B</u> : One PWPS FT8-3® SwiftPac® aeroderivative SCCT/generator peaking unit
033	Unit <del>54</del> : <u>SCCT 54A &amp; 5B</u> : One PWPS FT8-3® SwiftPac® aeroderivative SCCT/generator peaking unit
034	Unit <del>64</del> : <u>SCCT 6A &amp; 64B</u> : One PWPS FT8-3® SwiftPac® aeroderivative SCCT/generator peaking unit
035	<del>One 800 kW Emergency Diesel Engine/Generator Set</del> Unit 5: <u>SCCT 5A</u> : One PWPS FT8-3® <u>SwiftPac® aeroderivative SCCT/generator peaking unit</u>
036	<del>One 800 kW Emergency Diesel Engine/Generator Set</del> Unit 5: <u>SCCT 5B</u> : One PWPS FT8-3® <u>SwiftPac® aeroderivative SCCT/generator peaking unit</u>
<u>037</u>	Unit 6: <u>SCCT 6A</u> : One PWPS FT8-3® SwiftPac® aeroderivative SCCT/generator peaking unit
<u>038</u>	Unit 6: <u>SCCT 6B</u> : One PWPS FT8-3® SwiftPac® aeroderivative SCCT/generator peaking unit

C. Specific Conditions:

1. and 2. (No change)

3. Wet Injection: The permittee shall install, operate, and maintain a water injection system to reduce NOx emissions from each SCCT peaking unit. Prior to the initial emissions performance tests, the water injection system shall be tuned to achieve the permitted NOx emissions standard. Thereafter, the system shall be maintained and tuned in accordance with the manufacturer's recommendations or determined best practices. [Applicant request and Rule 62-4.070(3), F.A.C.]

34. – 78. (Renumbering)

89. Emission Standards: Emissions from each SCCT peaking unit shall not exceed the following standards.

Pollutant	Emission Standard <sup>e</sup>	Averaging Time	Compliance Method	Basis
NOx <sup>a</sup>	25.0 ppmvd @ 15% oxygen (O <sub>2</sub> )	4-hr rolling avg. <sup>f</sup>	CEMS	NSPS
	32.0 lb/hr/SCCT 56.0 tons/yr/SCCT	3 1-hr runs	Stack Test	Rule 62-4.070(3), F.A.C.
CO <sup>b</sup>	21.0 ppmvd @ 15% O <sub>2</sub>	3-hr rolling avg.	CEMS	ESCPD
	9.1 lb/hr/SCCT 8.2 tons/yr/SCCT	3 1-hr runs	Stack Test	Rule 62- 212.400(12), F.A.C.
VOC <sup>b</sup>	5.1 lb/hr/SCCT	3 1-hr runs	Surrogate is CO One-Time Stack Test	ESCPD Rule 62- 212.400(12), F.A.C.
Visible Emissions	<20 % Opacity	6-minute block	Visible Emissions Test	Rule 62- 296.320(4)(b)1., F.A.C.
PM <sup>c</sup>	2 gr S/100 scf of gas	3-1-hr runs	Recordkeeping	Vendor data
	2.5 lb/hr/SCCT	<u>N/A</u>	One-Time Stack Test <u>Firing pipeline quality</u> <u>natural gas</u>	
SO <sub>2</sub> <sup>d</sup>	2 gr S/100 scf of gas	N/A	Recordkeeping	ESCPD Rule 62- 212.400(12), F.A.C.
	1.9 lb/hr/SCCT 0.036 lb/MWhr/SCCT		One-Time Stack Test <u>Firing pipeline quality</u> <u>natural gas</u>	
SAM <sup>d</sup>	2 gr S/100 scf of gas	N/A	Recordkeeping <u>Firing pipeline quality</u> <u>natural gas</u>	ESCPD Rule 62-212.400(12), F.A.C.

- a. Continuous compliance with the 4-hr rolling average NOx standards shall be demonstrated based on data collected by the required Continuous Emissions Monitoring System (CEMS). The initial and annual EPA Method 7E or Method 20 tests associated with demonstration of compliance with 40 CFR 60, Subpart KKKK or certification of the CEMS instruments shall also be used to demonstrate compliance with the individual standards for natural gas during the time of those tests.
- b. Continuous compliance with the 3-hour rolling average CO standards shall be demonstrated based on data collected by the required CEMS. The initial and annual EPA Method 10 tests associated with the

certification of the CEMS instruments shall also be used to demonstrate compliance with the standard for natural gas. An oxidation catalyst shall be installed on each SCCT peaking unit to minimize the emissions of CO and VOC. CO will be used as a surrogate for VOC emissions as a demonstration of good combustion. For an initial demonstration of compliance with the VOC mass limit, a one-time compliance test using EPA Method 25A, 40 CFR 60, Appendix A, shall be conducted on only one SCCT peaking unit; in addition and optionally, EPA Method 18 may also be performed concurrently with EPA Method 25A to deduct emissions of methane and ethane.

- c. The sulfur fuel specification combined with the efficient combustion design and operation of the gas turbine should minimize PM emissions (PM emissions are a surrogate for PM<sub>10</sub> emissions) as well as visible emissions. Compliance with the fuel specifications, CO standards, and visible emissions standards shall serve as indicators of good combustion. Compliance with the fuel specifications shall be demonstrated by keeping records of the fuel sulfur content. Compliance with the visible emissions standard shall be demonstrated by conducting tests in accordance with EPA Method 9. ~~For an initial demonstration of compliance with the PM mass limit, a one-time compliance test using EPA Method 5, 40 CFR 60, Appendix A, shall be conducted on only one SCCT peaking unit.~~
- d. The fuel sulfur specification effectively limits the potential emissions of SO<sub>2</sub> and sulfuric acid mist (SAM) from each SCCT peaking unit. The application's SO<sub>2</sub> potential emissions are 1.9 lb/hr (0.036 lb/MWhr), based on 2 gr/100 scf of natural gas, equivalent to 0.0055 lb/MMBtu and is much less than the 40 CFR 60, Subpart KKKK standard of 0.060 lb/MMBtu. Compliance with the fuel sulfur specifications shall be the use of pipeline-quality natural gas. ~~For an initial demonstration of compliance with the SO<sub>2</sub> mass limit, a one-time compliance test using EPA Method 6, 6C, 8, or 20, 40 CFR 60, Appendix A, shall be conducted on only one SCCT peaking unit.~~
- 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 60.4350(g).

*{Permitting Note: In combination with the annual restriction on hours of operation, the above emissions standards effectively limit annual potential emissions from the SCCT peaking units.}*

[Rules 62-4.070(3), 62-210.200(Definitions-PTE) and 62-212.400(PSD), F.A.C.; and 40 CFR 60, Subpart KKKK]

~~910.~~ - ~~1011.~~ (Renumbering)

~~1112.~~ **Test Methods:** Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
1-4	Methods for Determining Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content: These methods shall be performed as necessary to support other methods.
<del>5</del>	<del>Method for Determining Particulate Matter Emissions</del>
7E	Determination of NOx Emissions from Stationary Sources (Instrumental)
<del>6 or 6C</del>	<del>Determination of SO<sub>2</sub> Emissions from Stationary Sources</del>
8	<del>Determination of SAM and SO<sub>2</sub> Emissions from Stationary Sources</del>
9	Visual Determination of Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources
<u>18</u>	<u>Measurement of Gaseous Organic Compound Emissions by Gas Chromatography</u> <i>{Note: EPA Method 18 may be used (optional) concurrently with EPA Method 25A to</i>



Method	Description of Method and Comments
	<u>deduct emissions of methane and ethane from the measured VOC emissions.</u>
20	Determination of NO <sub>x</sub> , SO <sub>2</sub> , and Diluent Emissions from Stationary Combustion Turbines
25A	Determination of Total Gaseous Organic Concentrations Using a Flame Ionization Analyzer

The methods are described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used for compliance testing unless prior written approval is received from the administrator of the Department's Emissions Monitoring Section in accordance with an alternate sampling procedure pursuant to Rule 62-297.620, F.A.C. [Rule 62-204.800, F.A.C. and 40 CFR 60, Appendix A]

+213. (Renumbering)

+314. Initial Compliance Demonstration for CO, PM, VOC and Visible Emissions: Initial compliance stack tests while firing natural gas shall be conducted within 60 days after achieving the maximum production rate, but not later than 180 days after the initial startup on natural gas. In accordance with the test methods specified in this permit, the SCCT peaking units shall be tested to demonstrate initial compliance with the emission standards for CO and the visible emissions standard. A one-time compliance test shall be conducted on one SCCT peaking unit for PM and VOC mass emissions in order to satisfy compliance with the vendor guarantee and good combustion of clean fuel, respectively. CO emissions are a surrogate for VOC emissions and PM is a surrogate for PM<sub>10</sub> emissions. [Rules 62-4.070 and 62-297.310(7)(a), F.A.C.; 40 CFR 60.8; and Appendix D of this permit]

*{Permitting Note: A one-time demonstration of compliance with the PM and VOC mass emission rates shall be required using the appropriate EPA Methods in 40 CFR 60, Appendix A, on only one SCCT peaking unit.*

+415. (Renumbering)

+516. Initial and Subsequent Compliance Demonstration for Sulfur: See 40 CFR 60.4415 in Appendix G (NSPS Subpart KKKK Requirements for Stationary Combustion Turbines) of this permit. ~~A one-time compliance test on one SCCT peaking unit shall be conducted for SO<sub>2</sub> mass emissions in order to satisfy compliance with the mass limit and the quality of the pipeline natural gas. Afterwards, the use of pipeline-quality natural gas in accordance with the permit and 40 CFR 60.4415 will be used as a surrogate for SO<sub>2</sub> emissions.~~ [40 CFR 60.4415; Appendices A and G of this permit; and Rule 62-4.070(3), F.A.C.]

+617. (Renumbering)

+718. Continuous Compliance: The permittee shall demonstrate continuous compliance with the 3-hour rolling average CO emissions standards; and with the 4-hour rolling average NO<sub>x</sub> emission standards based on data collected by the ~~certified~~required CEMS. Within 45 days of conducting any RATA on a CEMS that represents the annual compliance test, the permittee shall submit a report to the Compliance Authority summarizing results of the RATA. If the RATA on a CEMS was not conducted as an annual compliance test, then the results can be submitted with the semiannual report. Compliance with the CO emission standards also serves as an indicator of efficient fuel combustion, which also reduces emissions of PM. [Rules 62-4.070(3), 62-297.310(7)(a) & (b) and 62-204.800, F.A.C.]

+819. - 2627. (Renumbering)

2728. Monitoring of Capacity: The permittee shall monitor and record the ~~operating rate~~heat input of each SCCT peaking unit on a daily average basis, considering the number of hours of operation during each day (including the times of startup, shutdown and malfunction). Such monitoring shall be made by monitoring daily rates of consumption and heat content of each allowable fuel in accordance with the provisions of 40 CFR 75, Appendix D. [Rule 62-4.070(3), F.A.C.]

2829. - 3031. (Renumbering)

3132. Excess Emissions Reporting:

- a. *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: 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.
- b. *SIP ~~Quarterly~~Semi-Annual Report:* Within 30 days following the end of each calendar ~~quarter~~semi-annual period, the permittee shall submit a report to the Compliance Authority summarizing periods of NOx and CO emissions in excess of the permit standards following the NSPS format in 40 CFR 60.7(c), Subpart A. A summary of data excluded from SIP compliance calculations should also be provided. In addition, the report shall summarize the NOx and CO CEMS system monitors availability for the previous ~~calendar quarter~~semi-annual period.
- c. *NSPS Reporting:* Within 30 days following the calendar ~~quarter~~semi-annual period, the permittee shall submit the written reports required by 40 CFR 60, Subpart KKKK (Standards of Performance for Stationary Combustion Turbines) for the previous ~~calendar quarter~~semi-annual period to the Compliance Authority. Excess emissions must be reported for all periods of unit operation, including startup, 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~~Semi-Annual Report to suffice for the NSPS Semi-Annual Report.}*

[Rules 62-4.130, 62-204.800 and 62-210.700(6), F.A.C.; and 40 CFR 60.7 and 60.4375]

3233. (Renumbering)

III. Section IV. Appendices.

1. Appendix B. General Conditions. Condition 13.a.

This permit also constitutes:

- a. Determination of Best Available Control Technology (not applicable);

2. Appendix C. Common Conditions. Condition 3.

Excess Emissions Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. See Appendix E. Data Exclusion Procedures for SIP Compliance. Condition 17.a. [Rule 62-210.700(1), F.A.C.]

3. Appendix E. Data Exclusion Procedures for SIP Compliance. Condition 17.a.

Data Exclusion Procedures for SIP Compliance Allowable SIP CO and NOx Data Exclusion: ~~As per the procedures in this condition, limited amounts of CO and NOx CEMS emissions data may be excluded from the corresponding compliance demonstration, provided that best operational practices to minimize emissions are adhered to and the duration of data excluded is excess emissions are minimized.~~ CO and NOx CEMS data collected during periods of startup, shutdown and malfunction may be excluded from the 3-hr rolling average and 4-hr rolling average, respectively, for compliance demonstrations only in accordance with the following requirements. All periods of data excluded shall be consecutive for each such episode and only data obtained during the described episodes (startup, shutdown and malfunction) may be excluded. As provided by the authority in Rule 62-210.700(5), F.A.C., the following conditions replace the provisions in Rule 62-210.700(1), F.A.C.

## FINAL DETERMINATION

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### PERMITTEE

Tampa Electric Company  
P.O. Box 111  
Tampa, Florida 32178-0111

### PERMITTING AUTHORITY

Florida Department of Environmental Protection  
Division of Air Resource Management  
Bureau of Air Regulation, New Source Review Section  
2600 Blair Stone Road, MS #5505  
Tallahassee, Florida 32399-2400

### PROJECT

Project No. 0570040-026-AC  
H.L. Culbreath Bayside Power Station

This project made minor changes to several specific conditions of the final air construction permit, No. 0570040-024-AC, issued September 29, 2008. Included in the changes is recognition that there will be only one emergency generator installed instead of two. The existing H.L. Culbreath Bayside Power Station is located at 3602 Port Sutton Road in Hillsborough County, Florida. The project results in a minor source air construction permit and was not subject to Prevention of Significant Deterioration (PSD) preconstruction review.

### NOTICE AND PUBLICATION

The Department distributed an Intent to Issue Permit package on December 19, 2008. The applicant published the Public Notice of Intent to Issue in The Tampa Tribune on December 24, 2008. The Department received the proof of publication on December 30, 2008. No petitions for administrative hearings or extensions of time to petition for an administrative hearing were filed.

### COMMENTS

No comments on the Draft Permit were received from the public, the Environmental Protection Commission of Hillsborough County or the applicant. However, in specific condition 31.b. (now 32.b, after renumbering), "Quarterly" was changed to "Semi-Annual" and was not changed in the "Note" at the end of the specific condition. This correction will be made as follows:

*{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~~Semi-Annual Report to suffice for the NSPS Semi-Annual Report.}*

### CONCLUSION

The final action of the Department is to issue the permit as drafted and publicly noticed along with the change made in specific condition 31.b. (now 32.b, after renumbering).

**SECTION IV. APPENDICES**  
**CONTENTS**

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- Appendix A. Citation Formats and Glossary of Common Terms
- Appendix B. General Conditions
- Appendix C. Common Conditions
- Appendix D. Standard Testing Requirements
- Appendix E. Standard Continuous Monitoring Requirements
- Appendix F. NSPS Subpart A, General Provisions
- Appendix G. NSPS Subpart KKKK, Requirements for Stationary Combustion Turbines

**SECTION IV. APPENDIX A**  
**CITATION FORMATS AND GLOSSARY OF COMMON TERMS**

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**CITATION FORMATS**

The following illustrate the formats used in the permit to identify applicable requirements from permits and regulations.

**Old Permit Numbers**

Example: Permit No. AC50-123456 or Permit No. AO50-123456

Where: "AC" identifies the permit as an Air Construction Permit  
"AO" identifies the permit as an Air Operation Permit  
"123456" identifies the specific permit project number

**New Permit Numbers**

Example: Permit Nos. 099-2222-001-AC, 099-2222-001-AF, 099-2222-001-AO, or 099-2222-001-AV

Where: "099" represents the specific county ID number in which the project is located  
"2222" represents the specific facility ID number for that county  
"001" identifies the specific permit project number  
"AC" identifies the permit as an air construction permit  
"AF" identifies the permit as a minor source federally enforceable state operation permit  
"AO" identifies the permit as a minor source air operation permit  
"AV" identifies the permit as a major Title V air operation permit

**PSD Permit Numbers**

Example: Permit No. PSD-FL-317

Where: "PSD" means issued pursuant to the preconstruction review requirements of the Prevention of Significant Deterioration of Air Quality  
"FL" means that the permit was issued by the State of Florida  
"317" identifies the specific permit project number

**Florida Administrative Code (F.A.C.)**

Example: [Rule 62-213.205, F.A.C.]

Means: Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

**Code of Federal Regulations (CFR)**

Example: [40 CFR 60.7]

Means: Title 40, Part 60, Section 7

**GLOSSARY OF COMMON TERMS**

° F: degrees Fahrenheit

acfm: actual cubic feet per minute

ARMS: Air Resource Management System (Department's database)

BACT: best available control technology

Btu: British thermal units

CAM: compliance assurance monitoring

**SECTION IV. APPENDIX A**  
**CITATION FORMATS AND GLOSSARY OF COMMON TERMS**

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**CEMS:** continuous emissions monitoring system  
**cfm:** cubic feet per minute  
**CFR:** Code of Federal Regulations  
**CO:** carbon monoxide  
**COMS:** continuous opacity monitoring system  
**DEP:** Department of Environmental Protection  
**Department:** Department of Environmental Protection  
**dscfm:** dry standard cubic feet per minute  
**EPA:** Environmental Protection Agency  
**ESP:** electrostatic precipitator (control system for reducing particulate matter)  
**EU:** emissions unit  
**F.A.C.:** Florida Administrative Code  
**F.D.:** forced draft  
**F.S.:** Florida Statutes  
**FGR:** flue gas recirculation  
**Fl:** fluoride  
**ft<sup>2</sup>:** square feet  
**ft<sup>3</sup>:** cubic feet  
**gpm:** gallons per minute  
**gr:** grains  
**gr/dscf:** grains per dry standard cubic feet  
**HAP:** hazardous air pollutant  
**Hg:** mercury  
**HHV:** higher heating value  
**I.D.:** induced draft  
**ID:** identification  
**kPa:** kilopascals  
**lb:** pound  
**MACT:** maximum achievable technology  
**MMBtu:** million British thermal units  
**MSDS:** material safety data sheets  
**MW:** megawatt  
**NESHAP:** National Emissions Standards for Hazardous Air Pollutants  
**NO<sub>x</sub>:** nitrogen oxides  
**NSPS:** New Source Performance Standards

**SECTION IV. APPENDIX A**  
**CITATION FORMATS AND GLOSSARY OF COMMON TERMS**

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**O&M:** operation and maintenance

**O<sub>2</sub>:** oxygen

**Pb:** lead

**PM:** particulate matter

**PM<sub>10</sub>:** particulate matter with a mean aerodynamic diameter of 10 microns or less

**PSD:** prevention of significant deterioration

**psi:** pounds per square inch

**PTE:** potential to emit

**RACT:** reasonably available control technology

**RATA:** relative accuracy test audit

**SAM:** sulfuric acid mist

**scf:** standard cubic feet

**scfm:** standard cubic feet per minute

**SIC:** standard industrial classification code

**SNCR:** selective non-catalytic reduction (control system used for reducing emissions of nitrogen oxides)

**SO<sub>2</sub>:** sulfur dioxide

**TPH:** tons per hour

**TPY:** tons per year

**UTM:** Universal Transverse Mercator coordinate system

**VE:** visible emissions

**VOC:** volatile organic compounds

**SECTION IV. APPENDIX B**  
**GENERAL CONDITIONS**

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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, F.S. 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), F.S., the issuance of this permit does not convey any 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 F.S. 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 F.S. or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, F.S. Such evidence



**SECTION IV. APPENDIX B**  
**GENERAL CONDITIONS**

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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 F.S. after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by F.S. or Department rules.
11. This permit is transferable only upon Department approval in accordance with 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 (not applicable);
  - b. Determination of Prevention of Significant Deterioration (applicable); and
  - c. Compliance with New Source Performance Standards (applicable).
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.

**SECTION IV. APPENDIX C**  
**COMMON CONDITIONS**

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Unless otherwise specified in the permit, the following conditions apply to all emissions units and activities at the facility.

**EMISSIONS AND CONTROLS**

1. 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 permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; 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 or the regulations. [Rule 62-4.130, F.A.C.]
2. Circumvention: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
3. Excess Emissions Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. See Appendix E. Data Exclusion Procedures for SIP Compliance. Condition 17.a. [Rule 62-210.700(1), F.A.C.]
4. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]
5. Excess Emissions - Notification: In case of excess emissions resulting from malfunctions, the permittee shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]:
6. VOC or OS Emissions: No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]
7. Objectionable Odor Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-296.320(2) and 62-210.200(Definitions), F.A.C.]
8. General Visible Emissions: No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20% opacity. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]
9. 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.]

*{Permitting Note: Rule 62-210.700 (Excess Emissions), F.A.C., cannot vary any NSPS or NESHAP provision.}*

**RECORDS AND REPORTS**

10. Records Retention: All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least 5 years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rule 62-213.440(1)(b)2, F.A.C.]
11. Annual Operating Report: The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by March 1st of each year. [Rule 62-210.370(3), F.A.C.]

**SECTION IV. APPENDIX D**  
**STANDARD TESTING REQUIREMENTS**

Unless otherwise specified in the permit, the following testing requirements apply to all emissions units at the facility.

**COMPLIANCE TESTING REQUIREMENTS**

1. **Required Number of Test Runs:** For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five-day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five-day period allowed for the test, the Secretary or his or her designee may accept the results of two complete runs as proof of compliance, provided that the arithmetic mean of the two complete runs is at least 20% below the allowable emission limiting standard. [Rule 62-297.310(1), F.A.C.]
2. **Operating Rate During Testing:** Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. [Rule 62-297.310(2), F.A.C.]
3. **Calculation of Emission Rate:** For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]
4. **Applicable Test Procedures**
  - a. **Required Sampling Time.**
    - (1) Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
    - (2) **Opacity Compliance Tests.** When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
      - (a) For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.
      - (b) The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.
      - (c) The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.
  - b. **Minimum Sample Volume.** Unless otherwise specified in the applicable rule or test method, the minimum sample volume per run shall be 25 dry standard cubic feet.

**SECTION IV. APPENDIX D**  
**STANDARD TESTING REQUIREMENTS**

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- c. *Calibration of Sampling Equipment.* Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, F.A.C.
- d. *Allowed Modification to EPA Method 5.* When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

[Rule 62-297.310(4), F.A.C.]

5. Determination of Process Variables

- a. *Required Equipment.* The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
- b. *Accuracy of Equipment.* Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

6. Sampling Facilities: The permittee shall install permanent stack sampling ports and provide sampling facilities that meet the requirements of Rule 62-297.310(6), F.A.C. Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. All stack sampling facilities must also comply with all applicable Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E.

- a. *Permanent Test Facilities.* The owner or operator of an emissions unit for which a compliance test, other than a visible emissions test, is required on at least an annual basis, shall install and maintain permanent stack sampling facilities.
- b. *Temporary Test Facilities.* The owner or operator of an emissions unit that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the owner chooses to use temporary sampling facilities on an emissions unit, and the Department or its designee elects to test the unit, such temporary facilities shall be installed on the emissions unit within 5 days of a request by the Department or its designee and remain on the emissions unit until the test is completed.
- c. *Sampling Ports.*
  - (1) All sampling ports shall have a minimum inside diameter of 3 inches.
  - (2) The ports shall be capable of being sealed when not in use.
  - (3) The sampling ports shall be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, constriction or other flow disturbance.
  - (4) For emissions units for which a complete application to construct has been filed prior to December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 15 feet or less. For stacks with a larger diameter, four sampling ports, each 90 degrees apart, shall be installed. For emissions units for which a complete application to construct is filed on or after December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, shall be installed. On horizontal circular ducts, the ports shall be located so that the probe can enter the stack vertically, horizontally or at a 45 degree angle.
  - (5) On rectangular ducts, the cross sectional area shall be divided into the number of equal areas in accordance with EPA Method 1. Sampling ports shall be provided which allow access to each sampling point. The ports shall be located so that the probe can be inserted perpendicular to the gas flow.

**SECTION IV. APPENDIX D**  
**STANDARD TESTING REQUIREMENTS**

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d. *Work Platforms.*

- (1) Minimum size of the working platform shall be 24 square feet in area. Platforms shall be at least 3 feet wide.
- (2) On circular stacks with 2 sampling ports, the platform shall extend at least 110 degrees around the stack.
- (3) On circular stacks with more than two sampling ports, the work platform shall extend 360 degrees around the stack.
- (4) All platforms shall be equipped with an adequate safety rail (ropes are not acceptable), toe board, and hinged floor-opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports shall be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.

e. *Access to Work Platform.*

- (1) Ladders to the work platform exceeding 15 feet in length shall have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.
- (2) Walkways over free-fall areas shall be equipped with safety rails and toe boards.

f. *Electrical Power.*

- (1) A minimum of two 120-volt AC, 20-amp outlets shall be provided at the sampling platform within 20 feet of each sampling port.
- (2) If extension cords are used to provide the electrical power, they shall be kept on the plant's property and be available immediately upon request by sampling personnel.

g. *Sampling Equipment Support.*

- (1) A three-quarter inch eyebolt and an angle bracket shall be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts.
  - (a) The bracket shall be a standard 3 inch × 3 inch × one-quarter inch equal-legs bracket which is 1 and one-half inches wide. A hole that is one-half inch in diameter shall be drilled through the exact center of the horizontal portion of the bracket. The horizontal portion of the bracket shall be located 14 inches above the centerline of the sampling port.
  - (b) A three-eighth inch bolt which protrudes 2 inches from the stack may be substituted for the required bracket. The bolt shall be located 15 and one-half inches above the centerline of the sampling port.
  - (c) The three-quarter inch eyebolt shall be capable of supporting a 500 pound working load. For stacks that are less than 12 feet in diameter, the eyebolt shall be located 48 inches above the horizontal portion of the angle bracket. For stacks that are greater than or equal to 12 feet in diameter, the eyebolt shall be located 60 inches above the horizontal portion of the angle bracket. If the eyebolt is more than 120 inches above the platform, a length of chain shall be attached to it to bring the free end of the chain to within safe reach from the platform.
- (2) A complete monorail or dual rail arrangement may be substituted for the eyebolt and bracket.
- (3) When the sample ports are located in the top of a horizontal duct, a frame shall be provided above the port to allow the sample probe to be secured during the test.

[Rule 62-297.310(6), F.A.C.]

7. Frequency of Compliance Tests: The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

a. *General Compliance Testing.*

1. The owner or operator of a new or modified emissions unit that is subject to an emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining an operation permit for such emissions unit.

**SECTION IV. APPENDIX D**  
**STANDARD TESTING REQUIREMENTS**

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid and/or solid fuel for more than 400 hours other than during startup.
  3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to sub-subparagraph 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:
    - (a) Did not operate; or
    - (b) In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours,
  4. During each federal fiscal year (October 1 – September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:
    - (a) Visible emissions, if there is an applicable standard;
    - (b) Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
    - (c) c. Each NESHAP pollutant, if there is an applicable emission standard.
  5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.
  6. For fossil fuel steam generators on a semi-annual particulate matter emission compliance testing schedule, a compliance test shall not be required for any six-month period in which liquid and/or solid fuel is not burned for more than 200 hours other than during startup.
  7. For emissions units electing to conduct particulate matter emission compliance testing quarterly pursuant to paragraph 62-296.405(2)(a), F.A.C., a compliance test shall not be required for any quarter in which liquid and/or solid fuel is not burned for more than 100 hours other than during startup.
  8. Any combustion turbine that does not operate for more than 400 hours per year shall conduct a visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit.
  9. The owner or operator shall notify the Department or its designee, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.
  10. An annual compliance test conducted for visible emissions shall not be required for units exempted from air permitting pursuant to subsection 62-210.300(3), F.A.C.; units determined to be insignificant pursuant to subparagraph 62-213.300(2)(a)1., F.A.C., or paragraph 62-213.430(6)(b), F.A.C.; or units permitted under the General Permit provisions in paragraph 62-210.300(4)(a) or Rule 62-213.300, F.A.C., unless the general permit specifically requires such testing.
- b. *Special Compliance Tests.* When the Department or its designee, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the

**SECTION IV. APPENDIX D**  
**STANDARD TESTING REQUIREMENTS**

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nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department or its designee.

- c. *Waiver of Compliance Test Requirements.* If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department or its designee, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department or its designee shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of paragraph 62-297.310(7)(b), F.A.C., shall apply.

[Rule 62-297.310(7), F.A.C.]

**RECORDS AND REPORTS**

**8. Test Reports:**

- a. The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department or its designee on the results of each such test.
- b. The required test report shall be filed with the Department or its designee as soon as practical but no later than 45 days after the last sampling run of each test is completed.
- c. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department or its designee to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information.
  1. The type, location, and designation of the emissions unit tested.
  2. The facility at which the emissions unit is located.
  3. The owner or operator of the emissions unit.
  4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
  5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
  6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
  7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
  8. The date, starting time and duration of each sampling run.
  9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
  10. The number of points sampled and configuration and location of the sampling plane.
  11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
  12. The type, manufacturer and configuration of the sampling equipment used.
  13. Data related to the required calibration of the test equipment.
  14. Data on the identification, processing and weights of all filters used.

**SECTION IV. APPENDIX D**  
**STANDARD TESTING REQUIREMENTS**

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15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. The applicable emission standard and the resulting maximum allowable emission rate for the emissions unit plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]



**SECTION IV. APPENDIX E**  
**STANDARD CONTINUOUS MONITORING REQUIREMENTS**

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The new SCCT peaking units (EU-031 thru 030038) are subject to the following requirements for the new continuous emissions monitoring systems (CEMS) required for CO and NOx emissions.

**CEMS OPERATION PLAN**

1. **CEMS Operation Plan:** The permittee shall create and implement a plan for the proper installation, calibration, maintenance, and operation of each CEMS required by this permit. The permittee shall submit the CEMS Operation Plan to the Bureau of Air Monitoring and Mobile Sources for approval prior to CEMS installation. The CEMS Operation Plan shall become effective 60 days after submittal or upon its approval. If the CEMS Operation Plan is not approved, the permittee shall submit a new or revised plan for approval. *{Permitting Note: The Department maintains both guidelines for developing a CEMS Operation Plan and example language that can be used as the basis for the facility-wide plan required by this permit. Contact the Emissions Monitoring Section of the Bureau of Air Monitoring and Mobile Sources at 850/488-0114.}* [Rule 62-4.070(3), F.A.C.]

**MONITORS, PERFORMANCE SPECIFICATIONS AND QUALITY ASSURANCE**

2. **Span Values and Dual Range Monitors:** The permittee shall set appropriate span values for the CEMS based on the emissions standards and range of operation. If necessary, the permittee shall install dual range monitors in accordance with the CEMS Operation Plan. [Rule 62-4.070(3), F.A.C.]
3. **Diluent Monitor:** If required by permit to correct the CEMS output to the oxygen concentrations specified in the applicable emissions standard, the permittee shall either install an oxygen monitor or install a CO<sub>2</sub> monitor and use an appropriate F-Factor computational approach. [Rule 62-4.070(3), F.A.C.]
4. **Moisture Correction:** If necessary, the permittee shall install a system to determine the moisture content of the exhaust gas and develop an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). [Rule 62-4.070(3), F.A.C.]
5. **Continuous Flow Monitor:** For compliance with mass emission flow rate standards, the permittee shall install a continuous flow monitor to determine the stack exhaust flow rate. The flow monitor shall be certified pursuant to 40 CFR Part 60, Appendix B, Performance Specification 6. Alternatively, the permittee may install a fuel flow monitor and use an appropriate F-Factor computational approach to calculate stack exhaust flow rate. *{Permitting Note: The CEMS Operation Plan will contain additional details and procedures for CEMS installation.}* [Rule 62-4.070(3), F.A.C.]
6. **Performance Specifications:** The permittee shall evaluate the "acceptability" of each CEMS by conducting the appropriate performance specification. CEMS determined to be "unacceptable" shall not be considered "installed" for purposes of meeting the timelines of this permit. For CO monitors, the permittee shall conduct Performance Specification 4 of 40 CFR Part 60, Appendix B. For NOx monitors, the permittee shall conduct Performance Specification 2 of 40 CFR Part 60, Appendix B. [Rule 62-4.070(3), F.A.C.]
7. **Quality Assurance:** The permittee shall follow the quality assurance procedures of 40 CFR Part 60, Appendix F. For CO, the required relative accuracy test audit (RATA) tests shall be performed using EPA Method 10 in Appendix A of 40 CFR Part 60. For NOx, the RATA tests shall be performed using EPA Method 7E in Appendix A of 40 CFR Part 60. [Rule 62-4.070(3), F.A.C.]

**CALCULATION APPROACH FOR SIP COMPLIANCE**

8. **CEMS for Compliance:** Once adherence to the applicable performance specification for each CEMS is demonstrated, the permittee shall use the CEMS to demonstrate compliance with the applicable emission standards as specified by this permit. [Rule 62-4.070(3), F.A.C.]
9. **CEMS Data:** Each CEMS shall monitor and record emissions during all operations and whenever emissions are being generated, including during episodes of startups, shutdowns, and malfunctions. All data shall be used, except for invalid measurements taken during monitor system breakdowns, repairs, calibration checks, zero adjustments, and span adjustments. If the CEMS measures concentration on a wet basis, the CEM system shall include provisions to determine the moisture content of the exhaust gas and an algorithm to enable correction of the monitoring results to a

**SECTION IV. APPENDIX E**  
**STANDARD CONTINUOUS MONITORING REQUIREMENTS**

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dry basis (0% moisture). Alternatively, the owner or operator may develop through manual stack test measurements a curve of moisture contents in the exhaust gas versus load, and use these typical values in an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Final results of the CEMS shall be expressed as ppmvd corrected to 15% oxygen. The CEMS shall be used to demonstrate compliance with the CEMS emission standards for CO and NO<sub>x</sub> as specified in this permit. For purposes of determining compliance with the CEMS emissions standards of this permit, missing (or excluded) data shall not be substituted. [Rule 62-4.070(3), F.A.C.]

10. Operating Hours and Operating Days: For purposes of this Appendix, the following definitions shall apply. An hour is the 60-minute period beginning at the top of each hour. Any hour during which an emissions unit is in operation for more than 15 minutes is an operating hour for that emission unit. A day is the 24-hour period from midnight to midnight. Any day with at least one operating hour for an emissions unit is an operating day for that emission unit. [Rule 62-4.070(3), F.A.C.]
11. Valid Hourly Averages: Each CEMS shall be designed and operated to sample, analyze, and record data evenly spaced over the hour at a minimum of one measurement per minute. Each hourly average value shall be computed using at least one data point in each fifteen-minute quadrant of an hour, where the unit combusted fuel during that quadrant of an hour. All valid measurements collected during an hour shall be used to calculate a 1-hour block average that begins at the top of each hour.
- a. Hours that are not operating hours are not valid hours.
  - b. For each operating hour, the 1-hour block average shall be computed from at least two data points separated by a minimum of 15 minutes. If less than two such data points are available, there is insufficient data, the 1-hour block average is not valid, and the hour is considered as "monitor unavailable."

[Rule 62-4.070(3), F.A.C.]

12. Calculation Approaches: The permittee shall implement the calculation approach specified by this permit for each CEMS, as follows:
- a. *Daily Averages*:
  - b. *Rolling 30-day Average*.
  - c. *4-Hour Rolling Average (NO<sub>x</sub>)*: Compliance with the 4-hour rolling average shall be determined after each operating hour by calculating and recording the arithmetic average of all valid hourly averages for the previous 4 operating hours (compliance period).
  - d. *3-Hour Rolling Average (CO)*: Compliance with the 3-hour rolling average shall be determined after each operating hour by calculating and recording the arithmetic average of all valid hourly averages for the previous 3 operating hours (compliance period).
  - e. *Rolling 12-month Totals*:

[Rule 62-4.070(3), F.A.C.]

13. Minimum Valid Hours: At least one valid hourly average shall be used to calculate the emissions over any averaging period specified by this permit. One valid hourly average shall be sufficient to calculate the emissions over any averaging period. [Rule 62-4.070(3), F.A.C.]

#### **MONITOR AVAILABILITY**

14. Monitor Availability: Monitor availability shall be calculated on a quarterly basis for each emission unit as the number of valid hourly averages obtained by the CEMS, divided by the number of operating hours, times 100%. The monitor availability calculation shall not include periods of time where the monitor was functioning properly, but was unable to collect data while conducting a mandated quality assurance/quality control activity such as calibration error tests, RATA, calibration gas audit, or relative accuracy audits (RAA). Monitor availability for each CEMS shall be 95% or greater in any calendar quarter. Monitor availability shall be reported in the quarterly excess emissions report. In the event 95% availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability.

**SECTION IV. APPENDIX E**  
**STANDARD CONTINUOUS MONITORING REQUIREMENTS**

The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit. [Rule 62-4.070(3), F.A.C.]

**EXCESS EMISSIONS**

15. Definitions:

- a. *Excess Emissions* (under the Florida SIP) are defined as emissions of pollutants in excess of those allowed by any applicable air pollution rule of the Department, or by a permit issued pursuant to any such rule or Chapter 62-4, F.A.C. The term applies only to conditions which occur during startup, shutdown, or malfunction.
- b. *Startup* is defined as the commencement of operation of any emissions unit which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions.
- c. *Shutdown* means the cessation of the operation of an emissions unit for any purpose.
- d. *Malfunction* means any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner.

[Rule 62-210.200(Definitions), F.A.C.]

16. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. All such preventable emissions shall be included in any compliance determinations based on CEMS data. [Rules 62-210.700(4), F.A.C.]

17. Data Exclusion Procedures for SIP Compliance Allowable SIP CO and NO<sub>x</sub> Data Exclusion: ~~As per the procedures in this condition, limited amounts of CO and NO<sub>x</sub> CEMS emissions data may be excluded from the corresponding compliance demonstration, provided that best operational practices to minimize emissions are adhered to and the duration of data excluded is excess emissions are minimized.~~ CO and NO<sub>x</sub> CEMS data collected during periods of startup, shutdown and malfunction may be excluded from the 3-hr rolling average and 4-hr rolling average, respectively, for compliance demonstrations only in accordance with the following requirements. All periods of data excluded shall be consecutive for each such episode and only data obtained during the described episodes (startup, shutdown and malfunction) may be excluded. As provided by the authority in Rule 62-210.700(5), F.A.C., the following conditions replace the provisions in Rule 62-210.700(1), F.A.C.

- a. *Excess Emissions.* For purposes of SIP-based permit limits, excess emissions data collected during periods of startup, and shutdown and malfunction may be excluded as follows: from compliance calculations as allowed by the permit standards:

1. *Startup:* In accordance with the procedures described in the CEMS Data Requirements of this section, no more than the first 10 minutes of CEMS data shall be excluded for each gas turbine startup. For startups of less than 10 minutes in duration, only those minutes attributable to startup shall be excluded.
2. *Shutdown:* In accordance with the procedures described in the CEMS Data Requirements of this section, no more than the first 10 minutes of CEMS data shall be excluded for each gas turbine shutdown. For shutdowns less than 10 minutes in duration, only those minutes attributable to shutdown shall be excluded.
3. *Malfunction:* In accordance with the procedures described in the CEMS Data Requirements of this section, no more than 120 minutes of CEMS data shall be excluded in a 24-hour period for each gas turbine due to malfunctions. Within one (1) working day of occurrence, the owner or operator shall notify the Compliance Authority of any malfunction resulting in the exclusion of CEMS data.

The permittee shall notify the Compliance Authority within one working day of discovering any emissions in excess of a CEMS standard subject to the specified averaging period. All such reasonably preventable emissions shall be included in any CEMS compliance determinations. All valid emissions data (including data collected during startup, shutdown and malfunction) shall be used to report annual emissions for the Annual Operating Report.

**SECTION IV. APPENDIX E**  
**STANDARD CONTINUOUS MONITORING REQUIREMENTS**

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- b. *Limiting Data Exclusion.* If the compliance calculation using all valid CEMS emission data (as defined in this Appendix) indicates that the emission unit is in compliance, then no CEMS data shall be excluded from the compliance demonstration.
- c. *Event Driven Exclusion.* The excess emissions must occur due to an underlying event (startup or shutdown). If there is no underlying event, then no data may be excluded.
- d. *Continuous Exclusion.* Data shall be excluded on a continuous basis per event. Data from discontinuous periods shall not be excluded for the same underlying event.
- e. *Reporting Excluded Data.* These procedures for excluding SIP-based excess emissions from compliance calculations are not necessarily the same procedures used for “excess emissions” as defined by federal rules. Semiannual reports required by this permit shall indicate the duration of data excluded from SIP compliance calculations as well as the number of excess emissions as defined in the applicable federal rules.

*{Permitting Note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of a NSPS or NESHAP provision.}*

[Rules 62-4.070(3), 62-210.200, 62-210.370(3) and 62-210.700(4), F.A.C.]

18. **Notification Requirements:** The permittee shall notify the Compliance Authority within one working day of discovering any emissions that demonstrate non-compliance for a given averaging period. [Rule 62-4.070(3), F.A.C.]

**CALCULATING AND REPORTING ANNUAL EMISSIONS**

19. **CEMS for Calculating Annual Emissions:** As defined by this Appendix, all valid data shall be used when calculating annual emissions.
- a. Annual emissions shall include data collected during startup, shutdown, and malfunction periods.
  - b. Annual emissions shall include data collected during periods when the emission unit is not operating, but emissions are being generated (for example, firing fuel to warm up a process for some period of time prior to the emission unit’s “official” startup).
  - c. Annual emissions shall not include data from periods of time where the monitor was functioning properly but was unable to collect data while conducting a mandated quality assurance/quality control activity such as calibration error tests, RATA, calibration gas audit, or RAA. These periods of time shall be considered “missing data” for purposes of calculating annual emissions.
  - d. Annual emissions shall not include data from periods of time when emissions are in excess of the calibrated span of the CEMS. These periods of time shall be considered “missing data” for purposes of calculating annual emissions.
20. **Accounting for Missing Data:** All valid measurements collected during each hour shall be used to calculate a 1-hour block average that begins at the top of each hour. For each hour, the 1-hour block average shall be computed from at least two data points separated by a minimum of 15 minutes. If less than two such data points are available, the permittee shall account for emissions during that hour using site-specific data to generate a reasonable estimate of the 1-hour block average.
21. **Emissions Calculation:** Annual emissions shall be calculated as the sum of all valid emissions occurring during the year.
22. **Reporting Annual Emissions:** The permittee shall use data from each required CEMS when calculating annual emissions for purposes of computing actual emissions, baseline actual emissions, and net emissions increase, as defined at Rule 62-210.200, F.A.C., and for purposes of computing emissions pursuant to the reporting requirements of Rules 62-210.370(3) and 62-212.300(1)(e), F.A.C. [Rule 62-4.070(3), F.A.C.]

**SECTION IV. APPENDIX F**  
**NSPS SUBPART A, GENERAL CONDITIONS**

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Emissions units subject to a New Source Performance Standards of 40 CFR 60 are also subject to the applicable requirements of Subpart A, General Provisions, including:

- § 60.1 Applicability.
- § 60.2 Definitions.
- § 60.3 Units and abbreviations.
- § 60.4 Address.
- § 60.5 Determination of construction or modification.
- § 60.6 Review of plans.
- § 60.7 Notification and Recordkeeping.
- § 60.8 Performance Tests.
- § 60.9 Availability of information.
- § 60.10 State Authority.
- § 60.11 Compliance with Standards and Maintenance Requirements.
- § 60.12 Circumvention.
- § 60.13 Monitoring Requirements.
- § 60.14 Modification.
- § 60.15 Reconstruction.
- § 60.16 Priority List.
- § 60.17 Incorporations by Reference.
- § 60.18 General Control Device Requirements.
- § 60.19 General Notification and Reporting Requirements.

Individual subparts may exempt specific equipment or processes from some or all of these requirements. The general provisions may be provided in full upon request.

SECTION IV. APPENDIX G

NSPS SUBPART KKKK, REQUIREMENTS FOR STATIONARY COMBUSTION TURBINES

This subpart establishes emission standards and compliance schedules for the control of emissions from stationary combustion turbines that commenced construction, modification or reconstruction after February 18, 2005.

**Applicability**

**§ 60.4305 Does this subpart apply to my stationary combustion turbine?**

- (a) If you are the owner or operator of a stationary combustion turbine with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005, your turbine is subject to this subpart. Only heat input to the combustion turbine should be included when determining whether or not this subpart is applicable to your turbine.
- (b) Stationary combustion turbines regulated under this subpart are exempt from the requirements of subpart GG of this part.

**§ 60.4310 What types of operations are exempt from these standards of performance?**

- (a) Emergency combustion turbines, as defined in §60.4420(i), are exempt from the nitrogen oxides (NOx) emission limits in §60.4320.
- (b) NA
- (c) NA
- (d) NA

**Emission Limits**

**§ 60.4315 What pollutants are regulated by this subpart?**

The pollutants regulated by this subpart are nitrogen oxide (NOx) and sulfur dioxide (SO<sub>2</sub>).

**§ 60.4320 What emission limits must I meet for nitrogen oxides (NOx)?**

- (a) You must meet the emission limits for NOx specified in Table 1 to this subpart.
- (b) If you have two or more turbines that are connected to a single generator, each turbine must meet the emission limits for NOx.

**§ 60.4325 What emission limits must I meet for NOx if my turbine burns both natural gas and distillate oil (or some other combination of fuels)?**

Not applicable (NA).

**§ 60.4330 What emission limits must I meet for sulfur dioxide (SO<sub>2</sub>)?**

(a) If your turbine is located in a continental area, you must comply with either paragraph (a)(1) or (a)(2) of this section. If your turbine is located in Alaska, you do not have to comply with the requirements in paragraph (a) of this section until January 1, 2008.

(1) NA

(2) You must not burn in the subject stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input. If your turbine simultaneously fires multiple fuels, each fuel must meet this requirement.

(b) NA.

**General Compliance Requirements**

**§ 60.4333 What are my general requirements for complying with this subpart?**

- (a) You must operate and maintain your stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.
- (b) NA.

**Monitoring**

**§ 60.4335 How do I demonstrate compliance for NOx if I use water or steam injection?**

- (a) If you are using water or steam injection to control NOx emissions, you must install, calibrate, maintain and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water or steam to fuel being fired in the turbine when burning a fuel that requires water or steam injection for compliance.
- (b) Alternatively, you may use continuous emission monitoring, as follows:

**SECTION IV. APPENDIX G**

**NSPS SUBPART KKKK, REQUIREMENTS FOR STATIONARY COMBUSTION TURBINES**

(1) Install, certify, maintain, and operate a continuous emission monitoring system (CEMS) consisting of a NO<sub>x</sub> monitor and a diluent gas (oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>)) monitor, to determine the hourly NO<sub>x</sub> emission rate in parts per million (ppm) or pounds per million British thermal units (lb/MMBtu).

(2) NA.

(3) NA.

(4) NA.

**§ 60.4340 How do I demonstrate continuous compliance for NO<sub>x</sub> if I do not use water or steam injection?**

(a) NA.

(b) NA.

**§ 60.4345 What are the requirements for the continuous emission monitoring system equipment, if I choose to use this option?**

If the option to use a NO<sub>x</sub> CEMS is chosen:

(a) Each NO<sub>x</sub> diluent CEMS must be installed and certified according to Performance Specification 2 (PS 2) in appendix B to this part, except the 7-day calibration drift is based on unit operating days, not calendar days. With state approval, Procedure 1 in appendix F to this part is not required. Alternatively, a NO<sub>x</sub> diluent CEMS that is installed and certified according to appendix A of part 75 of this chapter is acceptable for use under this subpart. The relative accuracy test audit (RATA) of the CEMS shall be performed on a lb/MMBtu basis.

(b) As specified in §60.13(e)(2), during each full unit operating hour, both the NO<sub>x</sub> monitor and the diluent monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained with each monitor for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required for each monitor to validate the NO<sub>x</sub> emission rate for the hour.

(c) Each fuel flow meter shall be installed, calibrated, maintained, and operated according to the manufacturer's instructions. Alternatively, with state approval, fuel flow meters that meet the installation, certification, and quality assurance requirements of appendix D to part 75 of this chapter are acceptable for use under this subpart.

(d) Each watt meter, steam flow meter, and each pressure or temperature measurement device shall be installed, calibrated, maintained, and operated according to manufacturer's instructions.

(e) The owner or operator shall develop and keep on-site a quality assurance (QA) plan for all of the continuous monitoring equipment described in paragraphs (a), (c), and (d) of this section. For the CEMS and fuel flow meters, the owner or operator may, with state approval, satisfy the requirements of this paragraph by implementing the QA program and plan described in section 1 of appendix B to part 75 of this chapter.

**§ 60.4350 How do I use data from the continuous emission monitoring equipment to identify excess emissions?**

For purposes of identifying excess emissions:

(a) All CEMS data must be reduced to hourly averages as specified in §60.13(h).

(b) For each unit operating hour in which a valid hourly average, as described in §60.4345(b), is obtained for both NO<sub>x</sub> and diluent monitors, the data acquisition and handling system must calculate and record the hourly NO<sub>x</sub> emission rate in units of ppm or lb/MMBtu, using the appropriate equation from method 19 in appendix A of this part. For any hour in which the hourly average O<sub>2</sub> concentration exceeds 19.0 percent O<sub>2</sub> (or the hourly average CO<sub>2</sub> concentration is less than 1.0 percent CO<sub>2</sub>), a diluent cap value of 19.0 percent O<sub>2</sub> or 1.0 percent CO<sub>2</sub> (as applicable) may be used in the emission calculations.

(c) Correction of measured NO<sub>x</sub> concentrations to 15 percent O<sub>2</sub> is not allowed.

(d) If you have installed and certified a NO<sub>x</sub> diluent CEMS to meet the requirements of part 75 of this chapter, states can approve that only quality assured data from the CEMS shall be used to identify excess emissions under this subpart. Periods where the missing data substitution procedures in subpart D of part 75 are applied are to be reported as monitor downtime in the excess emissions and monitoring performance report required under §60.7(c).

(e) All required fuel flow rate, steam flow rate, temperature, pressure, and megawatt data must be reduced to hourly averages.

(f) Calculate the hourly average NO<sub>x</sub> emission rates, in units of the emission standards under §60.4320, using either ppm for units complying with the concentration limit.

## SECTION IV. APPENDIX G

### NSPS SUBPART KKKK, REQUIREMENTS FOR STATIONARY COMBUSTION TURBINES

(g) For simple cycle units without heat recovery, use the calculated hourly average emission rates from paragraph (f) of this section to assess excess emissions on a 4-hour rolling average basis, as described in §60.4380(b)(1).

(h) NA.

#### § 60.4355 How do I establish and document a proper parameter monitoring plan?

(a) NA.

(b) NA.

#### § 60.4360 How do I determine the total sulfur content of the turbine's combustion fuel? NA.

#### § 60.4365 How can I be exempted from monitoring the total sulfur content of the fuel?

You may elect not to monitor the total sulfur content of the fuel combusted in the turbine, if the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input for units located in continental areas and 180 ng SO<sub>2</sub>/J (0.42 lb SO<sub>2</sub>/MMBtu) heat input for units located in noncontinental areas or a continental area that the Administrator determines does not have access to natural gas and that the removal of sulfur compounds would cause more environmental harm than benefit. You must use one of the following sources of information to make the required demonstration:

(a) The fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the maximum total sulfur content for oil use in continental areas is 0.05 weight percent (500 ppmw) or less, the total sulfur content for natural gas use in continental areas is 20 grains of sulfur or less per 100 standard cubic feet, has potential sulfur emissions of less than less than 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input for continental areas; or

(b) Representative fuel sampling data which show that the sulfur content of the fuel does not exceed 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input for continental areas. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to part 75 of this chapter is required.

#### § 60.4370 How often must I determine the sulfur content of the fuel? NA.

#### Reporting

#### § 60.4375 What reports must I submit?

(a) For each affected unit required to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content under this subpart, you must submit reports of excess emissions and monitor downtime, in accordance with §60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown, and malfunction.

(b) NA.

#### § 60.4380 How are excess emissions and monitor downtime defined for NO<sub>x</sub>?

For the purpose of reports required under §60.7(c), periods of excess emissions and monitor downtime that must be reported are defined as follows:

(a) NA.

(b) For turbines using continuous emission monitoring, as described in §§60.4335(b) and 60.4345:

(1) An excess emissions is any unit operating period in which the 4-hour rolling average NO<sub>x</sub> emission rate exceeds the applicable emission limit in §60.4320. For the purposes of this subpart, a "4-hour rolling average NO<sub>x</sub> emission rate" is the arithmetic average of the average NO<sub>x</sub> emission rate in ppm or ng/J (lb/MWh) measured by the continuous emission monitoring equipment for a given hour and the three unit operating hour average NO<sub>x</sub> emission rates immediately preceding that unit operating hour. Calculate the rolling average if a valid NO<sub>x</sub> emission rate is obtained for at least 3 of the 4 hours.

(2) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO<sub>x</sub> concentration, CO<sub>2</sub> or O<sub>2</sub> concentration, fuel flow rate, steam flow rate, steam temperature, steam pressure, or megawatts. The steam flow rate, steam temperature, and steam pressure are only required if you will use this information for compliance purposes.

(3) For operating periods during which multiple emissions standards apply, the applicable standard is the average of the applicable standards during each hour. For hours with multiple emissions standards, the applicable limit for that hour is determined based on the condition that corresponded to the highest emissions standard.

(c) NA.



**SECTION IV. APPENDIX G**

**NSPS SUBPART KKKK, REQUIREMENTS FOR STATIONARY COMBUSTION TURBINES**

**§ 60.4385 How are excess emissions and monitoring downtime defined for SO<sub>2</sub>?**

If you choose the option to monitor the sulfur content of the fuel, excess emissions and monitoring downtime are defined as follows:

(a) For samples of gaseous fuel obtained using daily sampling, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the combustion turbine exceeds the applicable limit and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.

(b) NA.

(c) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample.

**§ 60.4390 What are my reporting requirements if I operate an emergency combustion turbine or a research and development turbine? NA.**

**§ 60.4395 When must I submit my reports?**

All reports required under §60.7(c) must be postmarked by the 30th day following the end of each 6-month period.

**Performance Tests**

**§ 60.4400 How do I conduct the initial and subsequent performance tests, regarding NO<sub>x</sub>?**

(a) You must conduct an initial performance test, as required in §60.8. Subsequent NO<sub>x</sub> performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test).

(1) There are two general methodologies that you may use to conduct the performance tests. For each test run:

(i) Measure the NO<sub>x</sub> concentration (in parts per million (ppm)), using EPA Method 7E or EPA Method 20 in appendix A of this part. For units complying with the output based standard, concurrently measure the stack gas flow rate, using EPA Methods 1 and 2 in appendix A of this part, and measure and record the electrical and thermal output from the unit. Then, use the following equation to calculate the NO<sub>x</sub> emission rate:

$$E = \frac{1.194 \times 10^{-7} * (NO_x)_c * Q_{std}}{P} \quad (\text{Eq. 5})$$

Where:

E = NO<sub>x</sub> emission rate, in lb/MWh

1.194 × 10<sup>-7</sup> = conversion constant, in lb/dscf-ppm

(NO<sub>x</sub>)<sub>c</sub> = average NO<sub>x</sub> concentration for the run, in ppm

Q<sub>std</sub> = stack gas volumetric flow rate, in dscf/hr

P = gross electrical and mechanical energy output of the combustion turbine, in MW (for simple-cycle operation), for combined-cycle operation, the sum of all electrical and mechanical output from the combustion and steam turbines, or, for combined heat and power operation, the sum of all electrical and mechanical output from the combustion and steam turbines plus all useful recovered thermal output not used for additional electric or mechanical generation, in MW, calculated according to §60.4350(f)(2); or

(ii) Measure the NO<sub>x</sub> and diluent gas concentrations, using either EPA Methods 7E and 3A, or EPA Method 20 in appendix A of this part. Concurrently measure the heat input to the unit, using a fuel flow meter (or flow meters), and measure the electrical and thermal output of the unit. Use EPA Method 19 in appendix A of this part to calculate the NO<sub>x</sub> emission rate in lb/MMBtu. Then, use Equations 1 and, if necessary, 2 and 3 in §60.4350(f) to calculate the NO<sub>x</sub> emission rate in lb/MWh.

(2) Sampling traverse points for NO<sub>x</sub> and (if applicable) diluent gas are to be selected following EPA Method 20 or EPA Method 1 (non-particulate procedures), and sampled for equal time intervals. The sampling must be performed with a traversing single-hole probe, or, if feasible, with a stationary multihole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points.

(3) Notwithstanding paragraph (a)(2) of this section, you may test at fewer points than are specified in EPA Method 1 or EPA Method 20 in appendix A of this part if the following conditions are met:

(i) You may perform a stratification test for NO<sub>x</sub> and diluent pursuant to

SECTION IV. APPENDIX G

NSPS SUBPART KKKK, REQUIREMENTS FOR STATIONARY COMBUSTION TURBINES

(A) [Reserved], or

(B) The procedures specified in section 6.5.6.1(a) through (e) of appendix A of part 75 of this chapter.

(ii) Once the stratification sampling is completed, you may use the following alternative sample point selection criteria for the performance test:

(A) If each of the individual traverse point NO<sub>x</sub> concentrations is within ±10 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±5ppm or ±0.5 percent CO<sub>2</sub> (or O<sub>2</sub>) from the mean for all traverse points, then you may use three points (located either 16.7, 50.0 and 83.3 percent of the way across the stack or duct, or, for circular stacks or ducts greater than 2.4 meters (7.8 feet) in diameter, at 0.4, 1.2, and 2.0 meters from the wall). The three points must be located along the measurement line that exhibited the highest average NO<sub>x</sub> concentration during the stratification test; or

(B) For turbines with a NO<sub>x</sub> standard greater than 15 ppm @ 15% O<sub>2</sub>, you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid if each of the individual traverse point NO<sub>x</sub> concentrations is within ±5 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±3 ppm or ±0.3 percent CO<sub>2</sub> (or O<sub>2</sub>) from the mean for all traverse points; or

(C) NA.

(b) The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. You may perform testing at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. You must conduct three separate test runs for each performance test. The minimum time per run is 20 minutes.

(1) If the stationary combustion turbine combusts both oil and gas as primary or backup fuels, separate performance testing is required for each fuel.

(2) NA.

(3) NA.

(4) Compliance with the applicable emission limit in §60.4320 must be demonstrated at each tested load level. Compliance is achieved if the three-run arithmetic average NO<sub>x</sub> emission rate at each tested level meets the applicable emission limit in §60.4320.

(5) If you elect to install a CEMS, the performance evaluation of the CEMS may either be conducted separately or (as described in §60.4405) as part of the initial performance test of the affected unit.

(6) The ambient temperature must be greater than 0 °F during the performance test.

**§ 60.4405 How do I perform the initial performance test if I have chosen to install a NO<sub>x</sub>-diluent CEMS?**

If you elect to install and certify a NO<sub>x</sub>-diluent CEMS under §60.4345, then the initial performance test required under §60.8 may be performed in the following alternative manner:

(a) Perform a minimum of nine RATA reference method runs, with a minimum time per run of 21 minutes, at a single load level, within plus or minus 25 percent of 100 percent of peak load. The ambient temperature must be greater than 0 °F during the RATA runs.

(b) For each RATA run, concurrently measure the heat input to the unit using a fuel flow meter (or flow meters) and measure the electrical and thermal output from the unit.

(c) Use the test data both to demonstrate compliance with the applicable NO<sub>x</sub> emission limit under §60.4320 and to provide the required reference method data for the RATA of the CEMS described under §60.4335.

(d) Compliance with the applicable emission limit in §60.4320 is achieved if the arithmetic average of all of the NO<sub>x</sub> emission rates for the RATA runs, expressed in units of ppm or lb/MWh, does not exceed the emission limit.

**§ 60.4410 How do I establish a valid parameter range if I have chosen to continuously monitor parameters? NA.**

**§ 60.4415 How do I conduct the initial and subsequent performance tests for sulfur?**

(a) You must conduct an initial performance test, as required in §60.8. Subsequent SO<sub>2</sub> performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test). There are three methodologies that you may use to conduct the performance tests.

(1) If you choose to periodically determine the sulfur content of the fuel combusted in the turbine, a representative fuel sample would be collected following ASTM D5287 (incorporated by reference, see §60.17) for natural gas. The fuel analyses of this section may be performed either by you, a service contractor retained by you, the fuel vendor, or any other qualified agency. Analyze the samples for the total sulfur content of the fuel using:

SECTION IV. APPENDIX G

NSPS SUBPART KKKK, REQUIREMENTS FOR STATIONARY COMBUSTION TURBINES

(i) NA.

(ii) For gaseous fuels, ASTM D1072, or alternatively D3246, D4084, D4468, D4810, D6228, D6667, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see §60.17).

(2) Measure the SO<sub>2</sub> concentration (in parts per million (ppm)), using EPA Methods 6, 6C, 8, or 20 in appendix A of this part. In addition, the American Society of Mechanical Engineers (ASME) standard, ASME PTC 19-10-1981-Part 10, "Flue and Exhaust Gas Analyses," manual methods for sulfur dioxide (incorporated by reference, see §60.17) can be used instead of EPA Methods 6 or 20. For units complying with the output based standard, concurrently measure the stack gas flow rate, using EPA Methods 1 and 2 in appendix A of this part, and measure and record the electrical and thermal output from the unit. Then use the following equation to calculate the SO<sub>2</sub> emission rate:

$$E = \frac{1.664 \times 10^{-7} * (SO_2)_c * Q_{std}}{P} \quad (\text{Eq. 6})$$

Where:

E = SO<sub>2</sub> emission rate, in lb/MWh

1.664 × 10<sup>-7</sup> = conversion constant, in lb/dscf-ppm

(SO<sub>2</sub>)<sub>c</sub> = average SO<sub>2</sub> concentration for the run, in ppm

Q<sub>std</sub> = stack gas volumetric flow rate, in dscf/hr

P = gross electrical and mechanical energy output of the combustion turbine, in MW (for simple-cycle operation), for combined-cycle operation, the sum of all electrical and mechanical output from the combustion and steam turbines, or, for combined heat and power operation, the sum of all electrical and mechanical output from the combustion and steam turbines plus all useful recovered thermal output not used for additional electric or mechanical generation, in MW, calculated according to §60.4350(f)(2); or

(3) Measure the SO<sub>2</sub> and diluent gas concentrations, using either EPA Methods 6, 6C, or 8 and 3A, or 20 in appendix A of this part. In addition, you may use the manual methods for sulfur dioxide ASME PTC 19-10-1981-Part 10 (incorporated by reference; see §60.17). Concurrently measure the heat input to the unit, using a fuel flow meter (or flow meters), and measure the electrical and thermal output of the unit. Use EPA Method 19 in appendix A of this part to calculate the SO<sub>2</sub> emission rate in lb/MMBtu. Then, use Equations 1 and, if necessary, 2 and 3 in §60.4350(f) to calculate the SO<sub>2</sub> emission rate in lb/MWh.

(b) [Reserved]

**Definitions**

**§ 60.4420 What definitions apply to this subpart?**

As used in this subpart, all terms not defined herein will have the meaning given them in the Clean Air Act and in subpart A (General Provisions) of this part.

*Combined cycle combustion turbine* means any stationary combustion turbine which recovers heat from the combustion turbine exhaust gases to generate steam that is only used to create additional power output in a steam turbine.

*Combined heat and power combustion turbine* means any stationary combustion turbine which recovers heat from the exhaust gases to heat water or another medium, generate steam for useful purposes other than additional electric generation, or directly uses the heat in the exhaust gases for a useful purpose.

*Combustion turbine model* means a group of combustion turbines having the same nominal air flow, combustor inlet pressure, combustor inlet temperature, firing temperature, turbine inlet temperature and turbine inlet pressure.

*Combustion turbine test cell/stand* means any apparatus used for testing uninstalled stationary or uninstalled mobile (motive) combustion turbines.

*Diffusion flame stationary combustion turbine* means any stationary combustion turbine where fuel and air are injected at the combustor and are mixed only by diffusion prior to ignition.

*Duct burner* means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary combustion turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a heat recovery steam generating unit.

*Efficiency* means the combustion turbine manufacturer's rated heat rate at peak load in terms of heat input per unit of power output—based on the higher heating value of the fuel.

## SECTION IV. APPENDIX G

### NSPS SUBPART KKKK, REQUIREMENTS FOR STATIONARY COMBUSTION TURBINES

*Emergency combustion turbine* means any stationary combustion turbine which operates in an emergency situation. Examples include stationary combustion turbines used to produce power for critical networks or equipment, including power supplied to portions of a facility, when electric power from the local utility is interrupted, or stationary combustion turbines used to pump water in the case of fire or flood, etc. Emergency stationary combustion turbines do not include stationary combustion turbines used as peaking units at electric utilities or stationary combustion turbines at industrial facilities that typically operate at low capacity factors. Emergency combustion turbines may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are required by the manufacturer, the vendor, or the insurance company associated with the turbine. Required testing of such units should be minimized, but there is no time limit on the use of emergency combustion turbines.

*Excess emissions* means a specified averaging period over which either (1) the NOX emissions are higher than the applicable emission limit in §60.4320; (2) the total sulfur content of the fuel being combusted in the affected facility exceeds the limit specified in §60.4330; or (3) the recorded value of a particular monitored parameter is outside the acceptable range specified in the parameter monitoring plan for the affected unit.

*Gross useful output* means the gross useful work performed by the stationary combustion turbine system. For units using the mechanical energy directly or generating only electricity, the gross useful work performed is the gross electrical or mechanical output from the turbine/generator set. For combined heat and power units, the gross useful work performed is the gross electrical or mechanical output plus the useful thermal output (i.e., thermal energy delivered to a process).

*Heat recovery steam generating unit* means a unit where the hot exhaust gases from the combustion turbine are routed in order to extract heat from the gases and generate steam, for use in a steam turbine or other device that utilizes steam. Heat recovery steam generating units can be used with or without duct burners.

*Integrated gasification combined cycle electric utility steam generating unit* means a coal-fired electric utility steam generating unit that burns a synthetic gas derived from coal in a combined-cycle gas turbine. No solid coal is directly burned in the unit during operation. *ISO conditions* means 288 Kelvin, 60 percent relative humidity and 101.3 kilopascals pressure.

*Lean premix stationary combustion turbine* means any stationary combustion turbine where the air and fuel are thoroughly mixed to form a lean mixture before delivery to the combustor. Mixing may occur before or in the combustion chamber. A lean premixed turbine may operate in diffusion flame mode during operating conditions such as startup and shutdown, extreme ambient temperature, or low or transient load.

*Natural gas* means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1,100 British thermal units (Btu) per standard cubic foot. Natural gas does not include the following gaseous fuels: landfill gas, digester gas, refinery gas, sour gas, blast furnace gas, coal derived gas, producer gas, coke oven gas, or any gaseous fuel produced in a process which might result in highly variable sulfur content or heating value.

*Noncontinental area* means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, the Northern Mariana Islands, or offshore platforms.

*Peak load* means 100 percent of the manufacturer's design capacity of the combustion turbine at ISO conditions.

*Regenerative cycle combustion turbine* means any stationary combustion turbine which recovers heat from the combustion turbine exhaust gases to preheat the inlet combustion air to the combustion turbine.

*Simple cycle combustion turbine* means any stationary combustion turbine which does not recover heat from the combustion turbine exhaust gases to preheat the inlet combustion air to the combustion turbine, or which does not recover heat from the combustion turbine exhaust gases for purposes other than enhancing the performance of the combustion turbine itself.

*Stationary combustion turbine* means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), heat recovery system, and any ancillary components and sub-components comprising any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, any combined cycle combustion turbine, and any combined heat and power combustion turbine based system. Stationary means that the combustion turbine is not self propelled or intended to be propelled while performing its function. It may, however, be mounted on a vehicle for portability.

*Unit operating day* means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

*Unit operating hour* means a clock hour during which any fuel is combusted in the affected unit. If the unit combusts fuel for the entire clock hour, it is considered to be a full unit operating hour. If the unit combusts fuel for only part of the clock hour, it is considered to be a partial unit operating hour.

**SECTION IV. APPENDIX G**

**NSPS SUBPART KKKK, REQUIREMENTS FOR STATIONARY COMBUSTION TURBINES**

*Useful thermal output* means the thermal energy made available for use in any industrial or commercial process, or used in any heating or cooling application, i.e., total thermal energy made available for processes and applications other than electrical or mechanical generation. Thermal output for this subpart means the energy in recovered thermal output measured against the energy in the thermal output at 15 degrees Celsius and 101.325 kilopascals of pressure.

**Table 1 to Subpart KKKK of Part 60-Nitrogen Oxide Emission Limits for New Stationary Combustion Turbines**

<b>Combustion turbine type</b>	<b>Combustion turbine heat input at peak load (HHV)</b>	<b>NOX emission standard</b>
New turbine firing natural gas.	> 50 MMBtu/h and [le] 850 MMBtu/h	25 ppm at 15 percent O <sub>2</sub> or 150 ng/J of useful output (1.2 lb/MWh).

## Livingston, Sylvia

---

**From:** Livingston, Sylvia  
**Sent:** Friday, January 16, 2009 12:29 PM  
**To:** dmlukcic@tecoenergy.com  
**Cc:** btburrows@tecoenergy.com; atnguyen@tecoenergy.com; lapence@tecoenergy.com; tdavis@ectinc.com; Halpin, Mike; campbell@epchc.org; Lee@epchc.org; LiuP@epchc.org; Gibson, Victoria; Mitchell, Bruce (Bruce.Mitchell@dep.state.fl.us); Walker, Elizabeth (AIR)  
**Subject:** H. L. CULBREATH BAYSIDE POWER STATION; 0570040-026-AC  
**Attachments:** 0570040-026-AC\_Signatures.pdf

Dear Sir/ Madam:

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**Click on the following link to access the permit project documents:**

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**Owner/Company Name:** TAMPA ELECTRIC COMPANY  
**Facility Name:** H. L. CULBREATH BAYSIDE POWER STATION  
**Project Number:** 0570040-026-AC  
**Permit Status:** FINAL  
**Permit Activity:** CONSTRUCTION  
**Facility County:** HILLSBOROUGH

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Sylvia Livingston  
Bureau of Air Regulation  
Division of Air Resource Management (DARM)  
850/921-9506  
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Note: The attached document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site: <http://www.adobe.com/products/acrobat/readstep.html> .

**Livingston, Sylvia**

**From:** Nguyen, Andrew T. [atnguyen@tecoenergy.com] **Sent:** Fri 1/16/2009 12:34 PM  
**To:** Livingston, Sylvia; Lukcic, David M.  
**Cc:** Burrows, Byron T.; Pence, Laurie A.; 'tdavis@ectinc.com'; Halpin, Mike; 'campbell@epchc.org'; 'Lee@epchc.org'; 'LiuP@epchc.org'; Gibson, Victoria; Mitchell, Bruce; Walker, Elizabeth (AIR); Sheffield, Karen A.; Ellwein, Joshua D.; Wenning, Ted B.; Carpinone, Paul L.; Ward, Julie M.; Willoughby, Ben P.; Bramley, Karen L.; Smith, David A.; Kroh, Stanley M.  
**Subject:** Re: H. L. CULBREATH BAYSIDE POWER STATION; 0570040-026-AC  
**Attachments:**

Sylvia,

TECO received this email.

Thank you  
 Andrew (Thuy) Nguyen  
 Tampa Electric-EHS Air Programs  
 Cell: 813-309-1341  
 Office: 813-228-4654  
 Internal Ext.: 34654  
 ATNguyen@TECOenergy.com

---

**From:** Livingston, Sylvia  
**To:** Lukcic, David M.  
**Cc:** Burrows, Byron T.; Nguyen, Andrew T.; Pence, Laurie A.; tdavis@ectinc.com ; Halpin, Mike ; campbell@epchc.org ; Lee@epchc.org ; LiuP@epchc.org ; Gibson, Victoria ; Bruce.Mitchell@dep.state.fl.us ; Walker, Elizabeth (AIR)  
**Sent:** Fri Jan 16 12:28:52 2009  
**Subject:** H. L. CULBREATH BAYSIDE POWER STATION; 0570040-026-AC

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**Owner/Company Name:** TAMPA ELECTRIC COMPANY  
**Facility Name:** H. L. CULBREATH BAYSIDE POWER STATION  
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**Facility County:** HILLSBOROUGH

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**Livingston, Sylvia**

**From:** Tom Davis [tdavis@ectinc.com] **Sent:** Fri 1/16/2009 1:31 PM  
**To:** Livingston, Sylvia  
**Cc:**  
**Subject:** RE: H. L. CULBREATH BAYSIDE POWER STATION; 0570040-026-AC  
**Attachments:**

Sylvia,

I have received and can access the documents provided.

Thanks.

---

**From:** Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]  
**Sent:** Friday, January 16, 2009 12:29 PM  
**To:** dmlukcic@tecoenergy.com  
**Cc:** btburrows@tecoenergy.com; atnguyen@tecoenergy.com; lapence@tecoenergy.com; tdavis@ectinc.com; Halpin, Mike; campbell@epchc.org; Lee@epchc.org; LiuP@epchc.org; Gibson, Victoria; Bruce.Mitchell@dep.state.fl.us; Walker, Elizabeth \ (AIR\  
**Subject:** H. L. CULBREATH BAYSIDE POWER STATION; 0570040-026-AC

Dear Sir/ Madam:

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Sylvia Livingston

Bureau of Air Regulation