# Florida Department of Environmental Protection

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**PERMITTEE**

Pasco Cogeneration, Ltd.
14850 Old State Road 23
Dade City, Florida 33523

Authorized Representative:
Mr. Richard Christmas, Plant Manager

Air Permit No. 1010071-11-AC
PSD-FL-177F

Pasco Cogeneration Plant
Updated Air Construction Permit

**PROJECT**

This is the final air construction permit No. 1010071-11-AC (PSD-FL-177F) for the Pasco Cogeneration Plant replaces and supersedes the previous air construction permit No. AC51-196460 (PSD-FL-177) and modifications thereto. It includes updated equipment specifications and regulatory requirements. The requirements of the original best available control technology (BACT) determination issued on November 20, 1991 pursuant to the rules for the Prevention of Significant Deterioration (PSD) are maintained and re-established herein.

The proposed permit applies to the existing Pasco Cogeneration Plant, which is a nominal 126.5 megawatts (MW) power plant categorized under Standard Industrial Classification No. 4931. The existing facility is located in Pasco County at 14850 Old State Road 23 in Dade City, Florida. The facility's universal transverse mercator (UTM) system coordinates are Zone 17, 383.5 kilometers (km) East and 3139.0 km North.

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

**STATEMENT OF BASIS**

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Executed in Tallahassee, Florida
*Electronic Signature*

Office of Permitting and Compliance
Division of Air Resource Management
Department of Environmental Protection
Tallahassee, Florida

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## CERTIFICATE OF SERVICE

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

Mr. Richard Christmas, Plant Manager (rchristmas@caithnessenergy.com)
Mr. Thomas Grace, Caithness Generation Service (tgrace@caithnessenergy.com)
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Clerk Stamp

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

Lynn Scearce
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## FACILITY DESCRIPTION

The existing facility is a nominal 126.5 megawatts (MW) cogeneration plant, which consists of two nominal 50 MW General Electric (GE) LM-6000 combined cycle combustion turbines (EU -001 and EU-002). Each combustion turbine is equipped with an air inlet chiller and natural gas-fired duct burner and exhausts through a heat recovery steam generator (HRSG) stack. The two HRSG share a single 26.5 MW steam turbine-electric generator. The primary fuel is pipeline natural gas and low sulfur distillate oil as a restricted alternate fuel. Nitrogen oxides ($NO_X$) are reduced with a water injection system. In 2007, spray inter-cooling (SPRINT) system was installed on each of the combined cycle combustion turbines was issued. Subsequently, a continuous emission monitoring system (CEMS) for monitoring and reporting $NO_X$ emissions was also installed on each unit. Carbon monoxide (CO) and volatile organic compounds (VOC) are controlled using an oxidation catalyst system. The existing combined cycle combustion turbines are subject to the applicable NSPS standards in Subpart A (General Provisions) and Subpart KKKK (Stationary Combustion Turbines). The facility also includes an emergency generator (EU 004) and a fire pump (EU 006).

Pasco Cogeneration is subject to the Acid Rain Program. This permit affects the following emissions units:

| **Facility ID No. 1010071** | |
|---|---|
| **EU No.** | **Emission Unit Description** |
| **Regulated Emissions Units** | |
| 001 | Combined Cycle Unit 1 |
| 002 | Combined Cycle Unit 2 |
| 003 | Fuel Oil Tank |

## PROJECT DESCRIPTION

This project updates the original Permit No. PSD-FL-177 or subsequent modifications thereto for the following items at Pasco Cogeneration Plant:

- Correct the nominal electrical production rate of each combined cycle combustion turbine-electric generator from 52 MW to 50 MW;
- Revise to include a performance curve identifying maximum heat input rate based on the fluctuating compressor inlet temperature;
- Correct and update the allowable emission limits;
- Remove the distinction between the normal operating mode and the SPRINT mode;
- Include authorization to replace limited components for maintenance and repairs of the combined cycle combustion turbine system;
- Change the annual test schedule from July 15$^{th}$ to within the federal fiscal year; and
- Update the permit for to be more consistent with recent air construction permits for combined cycle combustion turbines.

## FACILITY REGULATORY CLASSIFICATION

- The existing facility is not a major source of hazardous air pollutants (HAP).
- The existing facility has units subject to the acid rain provisions of the Clean Air Act (CAA).
- The existing facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The existing facility is a PSD major stationary source of air pollution pursuant to Rule 62-212.400, F.A.C.

- The existing combined cycle combustion turbines are subject to Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.
- The existing combined cycle combustion turbines are subject to the applicable federal New Source Performance Standards (NSPS) in Subpart A (General Provisions) and Subpart KKKK (Stationary Combustion Turbines) of 40 CFR 60.
- The existing reciprocating internal combustion engines (RICE) are subject to the applicable federal National Emissions Standards for Hazardous Air Pollutants (NESHAP) in Subpart A (General Provisions) and Subpart ZZZZ (Stationary Reciprocating Internal Combustion Engines)

## Subsection A. Combined Cycle Units (EU-001 and EU-002)

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

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Department's Southwest District Office at 13051 N. Telecom Parkway, Temple Terrace, FL 33637-0926.

3. Appendices: The following Appendices are attached as part of this permit: Appendix A (Citation Formats and Glossary of Common Terms), Appendix B (General Conditions), Appendix C (Common Conditions), Appendix D (Common Testing requirements), Appendix E (CEMS Requirements), Appendix F (NSPS Subpart A), Appendix G (Subpart KKKK), and Appendix H (Heat Input vs. CT Inlet Temperature Curve).

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

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

6. Modifications: No emissions unit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1) (a), F.A.C.]

7. Source Obligation: At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification. [Rule 62-212.400(12)(c), F.A.C.]

8. Actual Emissions Reporting: The previous permit for the SPRINT conversion project was based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.
   a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.
   b. The permittee shall report to the Department within 60 days after the end of each calendar year during the 5-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:
      1) The name, address and telephone number of the owner or operator of the major stationary source;
      2) The annual emissions as calculated pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;

3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and

4) Any other information that the owner or operator wishes to include in the report.

c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

For the previously approved SPRINT conversion project, the permittee is required to annually report actual CO and $NO_X$ emissions from Unit 1 (EU-001) and Unit 2 (EU-002) for a period of five years. This reporting requirement begins the first full calendar year of operation once the SPRINT project is complete. "Baseline actual emissions" (2-year average) for Unit 1 and Unit 2 combined are 157.3 tons per year of CO and 240.6 tons per year of $NO_X$. The SPRINT project was complete in 2007 and the first reporting year was 2008. [Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

## SECTION III. SPECIFIC CONDITIONS FOR EMISSIONS UNITS

### Subsection A. Combined Cycle Units (EU-001 and EU-002)

This section of the permit addresses the following emissions units:

| ID No. | Emission Unit Description |
|---|---|
| 001 | Combined Cycle Unit 1 - Combustion turbine-electrical generator set (50 MW) with natural gas-fired HRSG* |
| 002 | Combined Cycle Unit 2 - Combustion turbine-electrical generator set (50 MW) with natural gas-fired HRSG* |
| 003 | Distillate Oil Tank (170,000 gallon) |

* Units 1 and 2 share a common steam turbine-electrical generator set rated at 26.5 MW.

*{Permitting Note: These emissions units are subject to the following primary regulations:*

- *In accordance with Rule 62-212.400(PSD), F.A.C., the above emission units are subject to Best Available Control Technology (BACT) determinations for the following pollutants: CO, $NO_X$, particulate matter (PM), particulate matter with a mean particle diameter of 10 microns or less ($PM_{10}$) and sulfur dioxide ($SO_2$). The requirements of the original BACT determination issued on November 20, 1991 pursuant to the PSD rules are maintained and re-established in Condition III.A.10, Emissions Standards of this permit.*
- *The combined cycle combustion turbines are subject to Clean Air Interstate Rule (CAIR) as set forth in Rule 62-296.470, F.A.C.*
- *The combined cycle combustion turbines are subject to the Acid Rain Program as set forth in Chapter 62-213, F.A.C. and Rule 62-214.320, F.A.C.*
- *The combined cycle combustion turbines are subject to the applicable federal NSPS provisions in Subpart A (General Provisions) and Subpart KKKK (Stationary Combustion Turbines) of 40 CFR 60.}*

### PREVIOUS APPLICABLE REQUIREMENTS

1. Previous Air Construction Permits: This Final air construction permit (1010071-011-AC /PSD-FL-177F) replaces and supersedes the original air construction permit No. AC51-196460 (PSD-FL-177) and modifications thereto. [Application; Rules 62-4.080, 62-210.300, 62-212.300 and 62-212.400, F.A.C.]

### EQUIPMENT AND PERFORMANCE RESTRICTIONS

2. Combined Cycle Combustion Turbine System: The permittee is authorized to construct, operate and maintain as combined cycle combustion turbine system consisting of two nominal 50 MW combustion turbines (GE LM6000-PC-SPRINT) and a heat recovery steam generator with duct burner. The combustion turbine system generally consists of the following components: gas generator, accessory drive system, air inlet and filtration system, fuel delivery system, cooling system, lubrication system, control system, starting system and exhaust system with stack. This aero-derivative gas turbine is designed with modular components to facilitate quick repairs. Common "wear items" include compressor vanes, turbine nozzles, compressor blades, turbine blades, fuel nozzles, combustion chambers, seals, and shaft packing. The concept of modular design extends to the complete replacement of major components of the gas turbine. Replacements are authorized provided the following requirements are met.

   a. The "hot section" components (e.g., combustors and high-speed turbines including blades, nozzles and other components) shall be replaced with equivalent "like-kind" equipment. Replacement components shall not increase the maximum heat input rate, capacity or emissions from the combustion turbine. Replacement components shall be designed to comply with the emissions standards specified in this permit.

   b. With the exception of leased engines, the permittee shall conduct emissions stack test to demonstrate compliance with the emission standards for CO and visible emissions within 90 days of replacing a gas turbine. The permittee shall comply with the requirements for notification, test methods, test procedures, and reporting required by this permit.

c. To up-rate the gas turbine or increase the maximum heat input rate or capacity, the permittee shall submit an application for an air construction permit.

[Application and Design]

3. Authorized Fuels:

   a. *Natural gas.*

      (1) Natural Gas, primary fuel.

      (2) The maximum sulfur content of natural gas shall not exceed 1 grain sulfur (S)/100 scf based on an annual average of gas pipeline data (or fuel vendor analysis).

   b. *Distillate Fuel Oil.*

      (1) Maximum distillate fuel oil consumption shall not exceed either of the following limitations: 2,921 gallons/hour/CT; 701,050 gallons/year/CT.

      (2) Maximum annual firing using distillate fuel oil shall not exceed an equivalent of 10 days (240 hours) per year at full load.

      (3) Maximum sulfur content in the oil shall not exceed 0.05 percent by weight.

   *{Permitting Note: The lower heating value (LHV) of natural gas is approximately 940 million British thermal units (MMBtu) per million cubic feet (MMcf) of gas. The LHV of distillate oil is approximately 135 MMBtu/1000 gallons. In accordance with NSPS Subpart KKKK, the maximum sulfur content of any fuel fired in the combustion turbine shall not exceed 0.06 pounds (lb) $SO_2$/MMBtu.}* [Design; Rule 62-212.400, (BACT), F.A.C; and NSPS 40 CFR 60, Subpart KKKK]

4. Distillate Oil Tank: Emission Unit 003 is a 170,000 gallon distillate oil storage tank. *{Permitting Note: Based on changes to NSPS Subpart Kb (Volatile Organic Liquid Storage Vessels) in 40 CFR 60 made on October 15, 2003, the Subpart does not apply to storage vessels with a capacity greater than or equal to 39,890 gallons storing a liquid with a maximum true vapor pressure less than 0.51 pounds per square inch absolute (psia). The tank permitted stores distillate oil, which has a vapor pressure of approximately 0.009 psia at 70° Fahrenheit (F). This is well below the vapor pressure specified in Subpart Kb for this size tank and shows that distillate oil is not considered to be volatile. Therefore, the tank is considered an unregulated emissions unit.}* [Original Design]

5. Hours of Operation: Notwithstanding the fuel consumption limits, the combined cycle combustion turbines may operate continuously (8760 hours per year). [Rule 62-210.200, (PTE), F.A.C.]

6. Permitted Capacity – Combined Cycle Combustion Turbine: The heat input to the combined cycle combustion turbines are approximately represented on the associated heat input curve attached to this permit as Appendix H – Heat Input vs. CT Inlet Temperature Curve. The nominal heat input values are based on the LHV of each fuel, 100 percent (%) load, and inlet conditions of 59º F temperature, 60% relative humidity, and 14.7 psia. These nominal heat input rates will vary depending upon inlet conditions and the combustion turbine characteristics. [Design and Application; Rule 62-210.200, (PTE), F.A.C]

7. Permitted Capacity – HRSG Duct Burners: When the combustion turbines are firing natural gas, the permittee is authorized to operate the HRSG duct burners, which shall only fire natural gas. The permittee is not authorized to operate the duct burners when the combustion turbine is firing distillate oil. The annual heat input rate to the HRSG duct burners shall not exceed 525,000 MMBtu/year/HRSG-duct burner (equivalent to approximately 5,833 hours/year), based upon a maximum heat input rate not to exceed 90 MMBtu/hour (HHV). [Design and Application; Rule 62-210.200, (PTE), F.A.C.]

## AIR POLLUTION CONTROL EQUIPMENT

8. Oxidation Catalyst: The permittee shall install, operate and maintain a catalytic oxidation system in the HRSG associated with each combustion turbine to control CO emissions. *{Permitting Note: The expected reduction in CO emissions are between 50% and 70% depending on the inlet concentration and exhaust gas temperature.}* [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

9. Water Injection: The permittee shall install, tune, operate and maintain a water injection system to control $NO_X$ emissions from the combustion turbine when firing either fuel. Data shall be maintained to correlate the $NO_X$ CEMS results to the water-to-fuel ratio monitoring results. Data for the water-to-fuel ratio shall be used to demonstrate compliance with the $NO_X$ standards if the $NO_X$ CEMS is not available. This monitoring shall be conducted consistent with the NSPS KKKK provisions.
[Rule 62-212.400(BACT), F.A.C. and NSPS 40 CFR 60, Subpart KKKK]

## EMISSIONS STANDARDS

10. Emissions Standards: Emissions from each combustion turbine (CT) and HRSG duct burner (DB) shall not exceed the following standards.

| Pollutant | Fuel [b] | Source [a, c] | Maximum Allowable Emission Standards [a, d] | Equivalent Emissions @ 59°F [k] | |
|---|---|---|---|---|---|
| | | | | lb/hour | TPY [k] |
| $NO_X$ [e] | NG | CT | BACT Limit: 25 ppmvd at 15% $O_2$ as determined by a 24-hour block CEMS average | 82.7 | 422.1 |
| | | DB | 0.1 lb/MMBtu | 18.0 | |
| | | CT & DB | BACT Limit: 25 ppmvd at 15% $O_2$ as determined by a 24-hour CEMS block average | 100.7 | |
| | | ALL | NSPS Subpart KKKK Limit: 42 ppmvd at 15% $O_2$ as determined a 30-day rolling CEMS average. | --- | |
| | DFO | CT | BACT Limit: 42 ppmvd at 15% $O_2$ as determined by a 24-hour CEMS block average | 143.9 | |
| | | | NSPS Subpart KKKK limit: 96 ppmvd at 15% $O_2$ as determined a 30-day rolling CEMS average. | --- | |
| CO [f] | NG | CT | BACT Limit: 28 ppmvd at 15% $O_2$ | 54.6 | 341.6 |
| | | DB | BACT Limit: 0.2 lb/MMBtu | 36.0 | |
| | | CT & DB | --- | 90.6 | |
| | DFO | CT | BACT Limit: 18 ppmvd at 15% $O_2$ | 33.0 | |
| $PM/PM_{10}$ [g] | NG | CT | BACT Limit: 0.0065 lb/MMBtu | 5.0 | 31.3 |
| | | DB | BACT Limit: 0.006 lb/MMBtu | 2.6 | |
| | | CT & DB | --- | 7.6 | |
| | DFO | CT | BACT Limit: 0.026 lb/MMBtu | 20.0 | |
| $SO_2$ [h] | NG | CT & DB | Limit: 1 grain S/100 scf of natural gas, annual average based on vendor data | --- | 15.0 |
| | DFO | CT | Limit: 0.05% sulfur by weight | --- | |
| VOC [i] | NG | CT | There is no standard for VOC emissions | 3.3 | 30.8 |
| | | DB | There is no standard for VOC emissions | 5.4 | |
| | | CT & DB | There is no standard for VOC emissions | 8.7 | |
| | DFO | CT | There is no standard for VOC emissions | 8.3 | |
| SAM | DFO | CT | Limit: 0.05% sulfur by weight | --- | 0.8 |
| Opacity [j] | ALL | CT & DB | BACT Limit: 10% Opacity | --- | --- |

Notes:

a. CT = 2 combustion turbines, DB = 2 duct burners. The allowable emissions standards apply to each unit at all times.

b. NG = natural gas, DFO = distillate fuel oil

c. As specified by this permit, compliance with the Maximum Allowable Emission Standards shall be demonstrated for CT limits and CT&DB limits based on data from CEMS, stack tests or data from the annual RATA.

d. These are the Maximum Allowable Emission Standards that shall never be exceeded at any temperature and/or operating configuration.

e. Continuous compliance with the 24-hour block and 30-day rolling averages shall be demonstrated with data collected by the required CEMS. [Rule 62-212.400(BACT), F.A.C. and NSPS Subpart KKKK in 40 CFR 60]

f. Compliance with the CO emissions standard shall be determined by EPA Method 10. [Rule 62-212.400(BACT), F.A.C.]

g. As determined by fuel specifications, emissions of $PM/PM_{10}$ shall be minimized by the use of natural gas as the primary fuel with a maximum sulfur content of 1 grain S/100 scf and the limited use of distillate oil with a maximum sulfur content of 0.05% by weight. [Rule 62-212.400(BACT), F.A.C.]

h. As determined by fuel specifications, emissions of $SO_2$ shall be minimized by the use of natural gas as the primary fuel with a maximum sulfur content of 1 grain S/100 scf and the limited use of distillate oil with a maximum sulfur content of 0.05% by weight. Pursuant NSPS Subpart KKKK provisions in 40 CFR 60, the maximum sulfur content of any fuel fired in the combined cycle combustion turbine shall not exceed 0.06 lb $SO_2$/MMBtu. This data shall be submitted with the annual operating report.

i. There is no standard for VOC emissions. *{Permitting Note: Based on vendor data and installation of the oxidation catalyst, estimated maximum VOC emissions are less than 40 tons per year for the project to avoid PSD preconstruction review.}*

j. Compliance with the opacity standard shall be determined by EPA Method 9 observations. [Rule 62-212.400(BACT), F.A.C.]

k. The "Equivalent Emissions @ 59º F" are the total emissions from Units 1 and 2. Estimated annual emissions are *for informational proposes only* and are based on the most stringent emissions rate when the CT is firing natural gas for 8,520 hours/year, the emissions while firing DFO for 240 hours/year and DB emissions firing only natural gas for approximately 5,833 hours/year.

[NSPS 40 CFR 60, Subpart KKKK; Requirements of BACT dated November 20, 1991 issued with original Permit No. AC51--196460 (PSD-FL-177) and subsequent modifications thereto as re-established herein]

11. Excess Emissions: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing: best operational practices to minimize emissions are adhered to; and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24-hour period. Rule 62-210.700(Excess Emissions), F.A.C., cannot vary or supersede any federal NSPS or NESHAP provision. [Rule 62-210.700(5), F.A.C.]

## TESTING REQUIREMENTS

12. Test Methods: As required, tests shall be performed in accordance with the following reference methods.

| Method | Description of Method and Comments |
|---|---|
| 1-4 | Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content<br>*{Note: These methods shall be used to support the CO test.}* |
| 9 | Visual Determination of the Opacity of Emissions from Stationary Sources |
| 10 | Determination of Carbon Monoxide Emissions from Stationary Sources<br>*{Note: The method shall be based on a continuous sampling train.}* |

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800 and 62-297.401, F.A.C.; and Appendix A of 40 CFR 60]

13. Test Notifications: At least 15 days prior to the date on which each formal compliance test is to begin, the permittee shall notify the Compliance Authority 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. [Rule 62-297.310(7)(a)9, F.A.C.]

14. Initial Compliance Tests: Each combustion turbine shall demonstrate compliance with the CO and opacity standards on each authorized fuel by conducting initial tests within 60 days of achieving permitted capacity, but not later than 180 days after first fire. Compliance with the NOX standards shall be demonstrated by the required CEMS. *{Permitting Note: The requirement to conduct initial compliance stack testing for the existing combustion turbines has been satisfied.}* [Rule 62-297.310(7)(a)1, F.A.C.]

15. Annual Compliance Tests: During each federal fiscal year (October 1st – September 30th), each combustion turbine shall demonstrate compliance with the CO and opacity standards for natural gas by conducting annual tests. Any combustion turbine that does not operate for more than 400 hours per year shall only conduct a CO and visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit. [Rule 62-297.310(7)(a)4 and 8, F.A.C.]

16. Special Compliance Tests: When the Department, 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 nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]

**MONITORING REQUIREMENTS**

17. NOx CEMS: The permittee shall install, certify, calibrate, operate and maintain a CEMS to demonstrate compliance with the $NO_X$ standards. The permittee shall comply with the applicable requirements in Appendix E (CEMS Requirements) of this permit.
[Rules 62-212.400(BACT) and 62-296.470(CAIR); and NSPS Subpart KKKK]

18. Water Injection System: The permittee shall install, calibrate, operate and maintain a monitor to continuously measure and record the ratio of water or steam to fuel being fired in the combustion turbine. This monitoring data shall be used as a backup to demonstrate compliance with the $NO_X$ standards if the $NO_X$ CEMS is not available. [Rules 62-212.400(BACT) and 62-4.070(3), F.A.C.]

19. Fuel Consumption: The permittee shall install, calibrate, operate and maintain fuel monitoring equipment for each unit sufficient to demonstrate: that actual operation is within the specified permitted capacity, compliance with the restrictions on fuel consumption and actual annual fuel consumption for the Annual Operating Report. The permittee shall record the consumption of each fuel used for the given time period. [Rule 62-4.070(3), F.A.C.]

20. Fuel Sulfur Monitoring
    a. *Natural Gas*: For each month, the permittee shall obtain the representative fuel sulfur concentration in the pipeline-quality natural gas as determined by the pipeline vendor or by fuel analysis. The permittee shall calculate and record the 12-month rolling average of the natural gas sulfur content.
    b. *Distillate Oil*: For each delivery, the permittee shall obtain a fuel vendor certification of the fuel sulfur content prior to combining it with fuel oil already in the existing storage tank. Otherwise, the permittee shall have a sample of the distillate oil (as delivered) analyzed for the sulfur content.

[Rule 62-4.070(3), F.A.C. and NSPS Subpart KKKK]

**RECORDS AND REPORTS**

21. Stack Test Report: Within 45 days after the last sampling run of each test is completed, the permittee shall submit a test report to the Compliance Authority on the results of each such test in accordance with Rule 62-297.310(8), F.A.C. as shown in Appendix D of this permit. The following information shall also be included with each test report: the $NO_X$ emissions for each test run as determined by CEMS; the average water-to-fuel ratio for each test run; the fuel consumption and heat input rates of the CT and DB for each test run; and a summary of any maintenance conducted on or evaluation (reactivity) performed for the oxidation catalyst system. [Rule 62-4.070(3), F.A.C.]
22. Fuel Sulfur Records: The permittee shall demonstrate compliance with the sulfur limit for natural gas by: keeping reports obtained from the vendor indicating the average sulfur content of the natural gas being supplied for each month of operation. These records will be used to determine the 12-month rolling average of the natural gas sulfur content. The permittee shall demonstrate compliance with the distillate oil sulfur limit by maintaining records of the fuel vendor certification or actual analysis of the fuel sulfur content for each delivery. [Rule 62-4.070(3), F.A.C. and NSPS Subpart KKKK]
23. Sulfur Dioxide Emission Allowances: According to the Federal Acid Rain Program, the $SO_2$ emissions shall not exceed any allowances that the source holds under the Federal Acid Rain Program. Allowances shall be accounted for under the Federal Acid Rain Program.
    a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the Federal Acid Rain Program, provided that such increases do not require a permit revision pursuant to Rule 62-213.400, F.A.C.
    b. No limit shall be placed on the number of allowances held by the source under the Federal Acid Rain Program.
    c. Allowances shall be accounted for under the Federal Acid Rain Program.

    [Rule 62-213.440(1)(c)1, 2 and 3, F.A.C.]

**NSPS PROVISIONS**

24. Combined Cycle Combustion Turbines: Each combined cycle combustion turbine and duct burner system is subject to the applicable requirements in NSPS Subparts A (General Provisions) and KKKK (Stationary Combustion Turbines) of 40 CFR 60. See Appendix F. [Rule 62-204.800, F.A.C. and 40 CFR 60, Subpart A and KKKK]