**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION**
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**PERMITTEE**

Duke Energy Florida, Inc.
100 Central Avenue, Mail Code BP39
St. Petersburg, Florida 33701

*Authorized Representative:*
Mr. Christopher Bradley

Permit No. 1030011-019-AC (PSD-FL-381C)
Revisions to Permit Conditions
DEF P.L. Bartow Power Plant
Pinellas County
SIC No. 4911
Expires: June 30, 2015

**PROJECT AND LOCATION**

This is the final air construction (AC) permit, which revises miscellaneous conditions to previously issued air construction permit 1030011-010-AC (PSD-FL-381) for the nominal 1,280 megawatt (MW) combined cycle unit and its ancillary equipment. The facility is located at 1601 Weedon Island Drive, St. Petersburg, Pinellas County. The UTM coordinates are Zone 17, 342.4 km East and 3,082.6 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendix GC).

**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 and as described in the application, approved drawings, plans, and other documents on file with the Department. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

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

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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. Chris Bradley, DEF: chris.bradley@duke-energy.com
Mr. Andrew Bass, ECT: abass@ectinc.com
Ms. Natasha Hazziez, EPA Region 4: hazziez.natasha@epa.gov
Ms. Ana Oquendo, EPA Region 4: oquendo.ana@epamail.epa.gov
Peter Hessling, PCDEM: phesslin@pinellascounty.org
Ms. Kelly Boatwright, DEP SWD: kelley.m.boatwright@dep.state.fl.us
Mr. Justin Green, DEP Siting Office: justin.green@dep.state.fl.us
Ms. Lynn Scearce, DEP - OPC: lynn.scearce@dep.state.fl.us

Clerk Stamp

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

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## FACILITY DESCRIPTION

The P.L. Bartow Power Plant, is an electric power plant consisting of eight primary electrical generating units and associated auxiliary equipment. The existing facility is an electric power plant categorized as Standard Industrial Classification No. 4911. The existing plant consists of the following emissions units.

- Four 59 MW General Electric MS7000 simple cycle gas turbine peaking units, designated as Nos. P-1, P-2, P-3 and P-4 (EU 005-008);
- Four 215 MW Siemens SGT6-501 F combined cycle gas turbine-electrical generators ("4-on-1") with duct-fired heat recovery steam generator designated as Unit 4 (EU 038-041);
- Four 3 MMBtu/hr natural gas fired process heaters (EU 044);
- Two 3,500,000 diesel fuel storage tanks (EU 045);
- One 300 HP diesel fueled emergency fire pump (EU046); and,
- Insignificant emissions units listed in the current Title V permit.

## PROJECT DESCRIPTION

Duke Energy Florida requested several revisions to the specific conditions of air construction permit 1030011-010-AC (revised by 1030011-012-AC) for the 1,280 megawatts (MW) combined cycle unit (Power Block Unit 4). This permit addresses emissions Unit 4 and its ancillary equipment. This permitting action revises several conditions in the underlying PSD air construction permit primarily related to permitted capacity; NSPS nitrogen oxides requirements; excess emissions allowable data exclusions for startup, showdown, and malfunctions: CEMS requirements; annual compliance tests; fuel storage tanks; and, the ASTM sulfur method for ultra-low sulfur oil.

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

## REGULATORY CLASSIFICATION

The facility is a major source of hazardous air pollutants (HAP).

The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.

The facility is a major stationary source (PSD-major source) in accordance with Rule 62-212.400, F.A.C.

The facility operates units subject to the Standards of Performance for New Stationary Sources pursuant to 40 Code of Federal Regulations (CFR) Part 60.

The facility operates units subject to the National Emissions Standards for Hazardous Air Pollutants pursuant to 40 CFR Part 63.

The facility operates units subject to the Acid Rain provisions of the Clean Air Act.

The facility is identified as a major source of greenhouse gas (GHG) pollutants.

The facility operates units subject to the Federal Clean Air Interstate Rule (CAIR) in accordance with the Final Department Rules issued pursuant to CAIR as implemented by FDEP in Rule 62-296.470, Florida Administrative Code (F.A.C.).

The facility is located in an area that is designated as "attainment", "maintenance", or "unclassifiable" for each pollutant subject to a National Ambient Air Quality Standard pursuant to Rule 62-204.340, F.A.C.

The facility was not certified pursuant to Siting under 403.501-519, F.S. or Chapter 62-17, F.A.C. [Design; Letter from Applicant to Siting Office dated December 19, 2005]

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## RELEVANT DOCUMENTS

Several documents shown in the following link are not a part of this permit, but helped form the basis for this permitting action. Documents related to this permitting action are posted under permit No. 1030011-019-AC at the following web site address: http://appprod.dep.state.fl.us/air/emission/apds/listpermits.asp

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## SECTION II. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority. All documents related to applications for permits to construct, operate or modify an emissions unit shall be submitted to 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. Copies of all such documents shall also be submitted to the Compliance Authority.

2. Compliance Authority. All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the District Office and Local Air Program. All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Air Quality Division of the Pinellas County Department of Environmental Management Office at 300 South Garden Avenue, Clearwater, Florida 34616.

3. Appendices. Appendix GC (General Conditions) is attached as part of this permit.

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, 62-214, 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. Construction and Expiration: This permit does not authorize any physical construction. The expiration date specified above is established to provide adequate time for the concurrently processed Title V air operation permit revision to be issued as a final permit. Notwithstanding this expiration date, all specific emissions limitations and operating requirements established by this permit shall remain in effect until the facility or emissions unit is permanently shut down. For good cause, the permittee may request that the expiration date of this permit be extended. Pursuant to Rule 62-4.080(3), F.A.C., such a request shall be submitted to the Permitting Authority in writing before the permit expires. [Rules 62-4.070(4), 62-4.080 & 62-210.300(1), F.A.C.]

8. Applicable Standards and Regulations: The conditions of this permit supplement all previously issued air construction and operation permits for these emissions units. Unless otherwise specified in Section III below, the facility remains subject to all of the requirements contained in all previously issued air construction permits for this facility. (Note: These requirements are reflected in the Title V Air Operation Permit No. 1030011-020-AV issued concurrently). [Rule 62-4.070, F.A.C.]

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## A. Turbines

This section of the permit addresses the following emissions units.

| E.U. ID | Emissions Units Comprising Combined Cycle Unit 4 |
|---|---|
| 038 | Unit 4A – One 215 MW (ISO) Combustion Turbine with Duct-fired Heat Recovery Steam Generator |
| 039 | Unit 4B – One 215 MW (ISO) Combustion Turbine with Duct-fired Heat Recovery Steam Generator |
| 040 | Unit 4C – One 215 MW (ISO) Combustion Turbine with Duct-fired Heat Recovery Steam Generator |
| 041 | Unit 4D – One 215 MW (ISO) Combustion Turbine with Duct-fired Heat Recovery Steam Generator |
| ~~042~~ | ~~Unit 5 – One 195 MW (ISO) Combustion Turbine~~ |

**MODIFIED PERMIT CONDITIONS**

**1.** Subsection III. A. ULN Combustion System - Specific Condition 6

This condition is revised changing all the reference to ultra-low $NO_X$ (ULN) systems instead of dry low $NO_X$ (DLN) systems.

6. ~~D~~ULN Combustion System: The permittee shall install, operate and maintain Ultra ~~Dry~~ Low $NO_X$ (~~D~~ULN) systems to control $NO_X$ emissions from each CT when firing natural gas. ~~Prior to the initial emissions performance tests required for each CT, the DLN combustors and automated combustion turbine control system shall be tuned without a selective catalytic reduction (SCR) system in operation to achieve the permitted CO, VOC and $NO_X$ levels for simple cycle operation. Thereafter, e~~ Each system shall be maintained and tuned in accordance with the manufacturer's recommendations or industry standards.
[Application No. 1030011-019-AC; Design; Permits No. 1030011-010-AC & No. 1030011-012-AC]

**2.** Subsection III. A. Specific Condition 12 - Permitted Capacity - Combustion Turbines

This condition is revised to delete the requirement for submission of the manufacturer's performance curves since these curves have already been submitted after completing the initial tests.

12. Permitted Capacity - Combustion Turbines: The nominal heat input rate excluding steam for power augmentation to each CT is 1,972 MMBtu per hour when firing natural gas and 1,876 MMBtu per hour when firing distillate fuel oil based on a compressor inlet air temperature of 59° F, the higher heating value (HHV) of each fuel, and 100% load. Heat input rates will vary depending upon CT characteristics, ambient conditions, alternate methods of operation, and evaporative cooling. ~~The permittee shall provide manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 45 days of completing the initial compliance testing~~. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [Rule 62-210.200(Definitions - PTE), F.A.C.; Application No. 1030011-019-AC; Permits 1030011-010-AC & 1030011-012-AC]

**3.** Subsection III. A. Specific Condition 15 - Restricted Operation

This condition is revised to change the compliance metric from 9,736 hours to the equivalent 4.7 billion cubic feet of natural gas per year during any consecutive 12-month period.

15. Restricted Operation: The permittee shall not exceed the following parameters following shutdown of Units 1, 2 and 3:

    a. Distillate oil firing is limited to ~~5~~ 4,000 hours total aggregate for all ~~five~~ four CTs (based on an average of 1,000 hours per CT) during any consecutive 12-month period.



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b. Operation of the DBs is limited to 4.7 billion cubic feet of natural gas per year ~~9,736 hours aggregate~~ for four DBs ~~(based on an average of 2,434 hours per DB~~) during any consecutive 12-month period.

c. Power (steam) augmentation shall be limited to 6,752 hours aggregate for the four CTs comprising Unit 4 (based on an average of 1,688 hours per CT) during any consecutive 12-month period.

d. Other than startup, shutdown, fuel switching or documented malfunction, simple cycle CT operations shall be at a load not less than 45% or that load at which compliance was demonstrated during the initial compliance test, whichever is higher.

[Application; Rules 62-4.070 (3) and 62-212.400(BACT), F.A.C.; and, 1030011-010-AC]

[Application 1030011-019-AC; Rules 62-4.070 (3) and 62-212.400(BACT), F.A.C.; Permits ~~and,~~ 1030011-010-AC & 1030011-012-AC]

**4.** Subsection III. A. Specific Condition 17-- New Source Performance Standards for $NO_X$:

This condition is revised to include the NSPS requirements when the turbines operate at or above 75% peak load on gas or oil and below 75% peak load in units of ppm corrected to 15% oxygen.

17. New Source Performance Standards for $NO_X$: Emissions of $NO_X$ shall not exceed the following emission limits for each CT or CT/DB-fired HRSG determined pursuant to 40 CFR 60, Subpart KKKK.

| Pollutant | Fuel | Method of Operation [a] | CEMS [b] Rolling Average ppmvd (~~un~~corrected to 15% $O_2$) |
|---|---|---|---|
| $NO_X$ [c] | Oil | CT (SC) | 42 on 4-hour basis |
| | | CT (CC) | 42 on 30-operating days basis<br>96 on 30-operating days basis (<75% peak load) |
| | Gas | CT (SC) | 15 on 4-hour basis |
| | | CT (CC) | 15 on 30-operating days basis<br>96 on 30-operating days basis (<75% peak load) |
| | | CT & DB | |

a. CT (SC) means operation of CT in simple cycle mode. CT (CC) means operation of CT in combined cycle without use of the DB. CT & DB means operation in combined cycle mode and using the DB.

b. A CEMS for $NO_X$ shall be installed on the CT stacks and on the HRSG stacks. Correction to 15% $O_2$ is required consistent with the provisions Subpart KKKK, Table I.

1. Natural gas – At 75% peak load or greater, the NOx emissions standard shall not exceed 15 ppm @15% $O_2$.
2. No. 2 fuel oil - At 75% peak load or greater, the NOx emissions standard shall not exceed 42 ppm @15% $O_2$.
3. Natural gas or No. 2 fuel oil - Below 75% peak load, the NOx emissions standard shall not exceed 96 ppm @15% O2.

c. Compliance with the continuous $NO_X$ standards shall be demonstrated based on data collected by the required CEMS.

Refer to Appendix KKKK of this permit for the full NSPS requirements. [Application 1030011-019-AC, Permits 1030011-010-AC & 1030011-012-AC; and, 40 CFR 60, Subpart KKKK and Table I]

**5.** Subsection III. A. Specific Condition 18 - Best Available Control Technology (BACT) Emissions Standards for CO and VOC:

This condition is revised to delete references to Unit 5 since this unit was not built.

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18. Best Available Control Technology (BACT) Emissions Standards for CO and VOC: Emissions of VOC and CO shall not exceed the following emission limits for each CT or CT/DB-fired HRSG.

| Pollutant | Fuel | Method of Operation [a] | Stack Test, 3-Run Average | | CEMS [c] Block Average |
|---|---|---|---|---|---|
| | | | ppmvd @ 15% $O_2$ | lb/hr [b] | ppmvd @ 15% $O_2$ |
| *Unit 4 HRSG Stacks* | | | | | |
| CO | Oil | CT | 8.0 | 40.4 | 8.0, 24-hr [d] 6, 12-month [f] |
| | Gas | CT | 4.1 | 20.8 | |
| | | CT & DB | 7.6 | 38.3 | |
| VOC [e,g] | Oil | CT | 2.8 | 7.6 | Not Applicable |
| | Gas | CT | 1.2 | 3.0 | |
| | | CT & DB | 1.5 | 3.8 | |
| ~~*Unit 5CT and*~~ *Unit 4 Bypass Stacks* | | | | | |
| CO | Oil | CT | 8.0 | 40.4 | Not Applicable |
| | Gas | CT | 4.1 | 20.8 | |
| VOC [e] | Oil | CT | 2.8 | 7.6 | Not Applicable |
| | Gas | CT | 1.2 | 3.0 | |

a. CT means operation of a combustion turbine (CT) in simple cycle or in combined cycle without use of the duct burner (DB). CT & DB means operation in combined cycle mode and using the DB.

b. The mass emission rate standards are based on a turbine inlet condition of 59° F and may be adjusted to actual test conditions in accordance with the performance curves and/or equations on file with the Department.

c. CEMS for CO are required only on the HRSG stacks. Other than startup, shutdown, fuel switching or documented malfunction the CT shall operate above 70% load during simple cycle operation.

d. Compliance with the continuous 24-hour CO standards shall be demonstrated based on data collected by the required CEMS on the HRSG stacks. The initial and annual EPA Method 10 tests associated with the certification of the CEMS instruments may also be used to demonstrate compliance with the individual standards for natural gas, fuel oil, or duct burner modes. Separate CO tests shall be conducted under simple cycle mode on the CT stacks.

e. Compliance with the VOC standards shall be demonstrated by conducting tests in accordance with EPA Method 25A on the HRSG stacks and, under simple cycle mode, on the CT stacks. Optionally, EPA Method 18 may also be performed to deduct emissions of methane and ethane. The emission standards are based on VOC measured as methane.

f. Rolling Average. Enforcement discretion may be exercised for up to 12 months with respect to the 6 ppmvd @15% $O_2$ limit for any CT/Duct-fired HRSG upon notification by the permittee of intent to install oxidation catalyst. The permittee shall have 12 months to complete the oxidation catalyst installation. From time of notification to installation of the catalyst all partial or complete calendar months shall be excluded from the 12-month rolling average.

g. Compliance with the CO CEMS based limits shall be deemed as compliance with the VOC limit.

[Application No. 1030011-019-AC; Permits 1030011-010-AC & 1030011-012-AC; Rule 62-210.200(Definitions – BACT) and 62-212.400 F.A.C.]

**6.** Subsection III. A. Specific Condition 25 - Allowable Data Exclusions:

This condition is revised to accommodate DEF gained experience in the operation of the CT/HRSG and steam turbine and as the result of feedback received from the vendor on the startup of the steam turbine and the result of an out of compliance determination.

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25. Allowable Data Exclusions: As per the procedures in this condition, limited amounts of CO CEMS emissions data may be excluded from the corresponding SIP-based compliance demonstration, provided that best operational practices to minimize emissions are adhered to and the duration of data excluded is minimized. As provided by the authority in Rule 62-210.700(5), F.A.C., these conditions replace the provisions in Rule 62-210.700(1), F.A.C. For each CT/HRSG system, excess emissions resulting from startup, shutdown, and documented malfunctions shall not exceed ~~two hours~~ 120 minutes (non continuous) in any 24-hour period except for the specific cases listed below. A "documented malfunction" means a malfunction that is documented within one working day of detection by contacting the Compliance Authority by telephone, facsimile transmittal, or electronic mail.

a. *Steam Turbine/HRSG System Cold Startup*: For cold startup of the steam turbine system, up to eight (8) hours of excess emissions from any CT/HRSG system may be excluded in any 24-hour period. A cold "startup of the steam turbine system" is defined as startup of the ~~4-on-1~~ combined cycle system following a shutdown of the steam turbine lasting ~~at least 48 hours.~~ 24 hours or longer.

b. *Steam Turbine/HRSG Hot Startup:* For hot startup of the steam turbine system, up to four (4) hours of excess emissions from any CT/HRSG system may be excluded in any 24-hour period. A "hot startup of the steam turbine system" is defined as startup of the combined cycle system following a shutdown of the steam turbine lasting less than 24 hours.

c. ~~*b*~~. *Shutdown Combined Cycle Operation*: For shutdown of the combined cycle operation, up to three (3) hours in any 24-hour period of excess emissions from any CT/HRSG system can be excluded.

d. ~~*c.*~~ *CT/HRSG System Cold Startup*: For cold startup of a CT/HRSG system, up to four (4) hours in any 24-hour period can be excluded. "Cold startup of a CT/HRSG system" is defined as a ~~startup after the pressure in the high-pressure (HP) steam drum falls below 450 psig for at least a one-hour period.~~ CT/HRSG starting up and blending into *combined-cycle* service after that CT/HRSG has been off-line for 4 hours or longer.

~~e. *d*. *Simple Cycle CT Startup*. For startup of a CT for the purpose of operation in simple cycle mode, up to 1 hour or 60 minutes of CEMS data in any 24-hour period of excess emissions can be excluded.~~

f. ~~*e*~~ *Fuel Switching*: For fuel switching, up to 2 hours in any 24-hour period can be excluded.

*{Permitting Note: During a cold startup of the steam turbine system, each CT/HRSG system is sequentially brought on line at low load to gradually increase the temperature of the steam-electrical turbine and prevent thermal metal fatigue. Note that shutdowns and documented malfunctions are separately regulated in accordance with the requirements of this condition. The following table summarizes the excess emissions allowable data exclusion hours during startup conditions.}*

| **Start-Up Conditions** | **Hours Off-Line** | **Excess Emissions Data Exclusion Allowance for Startup** |
|---|---|---|
| **Steam Turbine/HRSG Starts** | | |
| ST/HRSG System Cold Startup | ≥24 | 8 hours |
| ST/HRSG Hot Startup | <24 | 4 hours |
| **CT/HRSG Blend Ins** | | |
| CT/HRSG Cold Startup | ≥4 | 4 hours |
| CT/HRSG Hot Startup | <4 | 3 hours |

[Application No. 1030011-019-AC; Permits 1030011-010-AC & 1030011-012-AC and Rule 62-4.070(3),



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F.A.C.]

**7.** Subsection III. A. Specific Condition 26 – DLN Tuning

This condition is revised by changing the dry low $NO_X$ (DLN) reference to ultra-low $NO_X$ (ULN).

26. ~~D~~ULN Tuning: CEMS data collected during initial or other major ~~D~~ ULN tuning sessions shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer's specifications. A "major tuning session" would occur after completion of initial construction, a combustor change-out, a major repair or maintenance to a combustor, or other similar circumstances. Prior to performing any major tuning session, the permittee shall provide the Compliance Authority with an advance notice of at least 7 days that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail. [Application No. 1030011-019-AC; Permits 1030011-010-AC & 1030011-012-AC; Design; and, Rule 62-4.070(3), F.A.C.]

**8.** Subsection III. A. Specific Condition 28 - Initial Compliance Determinations

This condition is partially deleted as obsolete and the subtitle is changed to Subsequent Compliance Determinations.

28. ~~Initial Compliance Determinations: Each CT shall be stack tested to demonstrate initial compliance with the emission standards for CO, $NO_X$, VOC, visible emissions, and ammonia slip. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup of each unit configuration. Each unit shall be tested when firing natural gas, when using the duct burners and when firing distillate fuel oil. Reference method data collected during the required Relative Accuracy Test Audits (RATAs) may be used to demonstrate compliance with the initial CO and $NO_X$ compliance tests. With appropriate flow measurements (or fuel measurements and approved F-factors), the EPA Method 25A instrumental data may be used to demonstrate initial compliance with the VOC mass rate emissions standards. CO and $NO_X$ emissions recorded by the CEMS shall also be reported for each run during tests for visible emissions, VOC and ammonia slip~~.

    Subsequent Compliance Determinations. The Department may require the permittee to conduct additional tests after major replacement or major repair of any air pollution control equipment, such as the SCR catalyst, oxidation catalyst, ~~D~~ULN combustors, etc.
    [Application No. 1030011-019-AC; Permits 1030011-010-AC & 1030011-012-AC; Rule 62-297.310(7)(a)1, F.A.C. and 40 CFR 60.8]

**9.** Subsection III. A. Specific Condition 30 - Annual Compliance Tests.

This condition is revised to separate each pollutant compliance requirement and to clarify when visible emissions tests are required

30. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), each CT shall be tested to demonstrate compliance with the emission standards for: ~~visible emissions. CO emissions data collected during the required continuous monitor Relative Accuracy Test Audits (RATAs) may be used to demonstrate compliance with the CO standards. Annual testing to determine the ammonia slip shall be conducted while firing the primary fuel. $NO_X$ emissions recorded by the CEMS shall be reported for each ammonia slip test run.~~

    ~~*{Permitting Note: After initial compliance with the VOC standards is demonstrated, annual compliance tests for VOC emissions are not required. Compliance with the continuously monitored CO standards shall indicate efficient combustion and low VOC emissions. The Department retains the right to require VOC testing for the reasons such as exceedance of the CO limit or those given in Appendix SC, Special Compliance Tests.}*~~

a. Visible Emissions Test: Annual emissions compliance testing for visible emissions is not required for these emissions units while burning:
1. only gaseous fuels; or
2. gaseous fuels in combination with any amount of liquid fuels for less than 400 hours per year; or
3. only liquid fuels for less than 400 hours per year

b. Carbon Monoxide Test: Annual simple-cycle stack testing is required; however, combined cycle CO emissions data collected during the required continuous monitor Relative Accuracy Test Audits (RATAs) may be used to demonstrate compliance with the CO standards.

c. Ammonia Slip Test: Annual testing to determine the ammonia slip shall be conducted while firing the primary fuel. $NO_X$ emissions recorded by the CEMS shall be reported for each ammonia slip test run.

d. VOC Test: Not required. Compliance with the continuously monitored CO standards shall indicate efficient combustion and low VOC emissions. The Department retains the right to require VOC testing for the reasons such as exceedance of the CO limit or those given in Appendix SC, Special Compliance Tests

[Application No. 1030011-019-AC; Permits 1030011-010-AC & 1030011-012-AC; Rules 62-212.400, 62-210.200 (243) (BACT), 62-4.070 (3) and 62-297.310(7)(a)4, F.A.C.]

**10.** Subsection III. A. Specific Condition 32 - Allowable Data Exclusions

For this condition, the *Data Exclusion* paragraph is revised changing references from DLN to ULN.

32. CEM Data Requirements:

- *Data Collection*: Emissions shall be monitored and recorded at all times including startup, operation, shutdown, and malfunction except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments. The CEMS shall be designed and operated to sample, analyze, and record data evenly spaced over an hour. 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 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 for each allowable fuel, 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 of CO corrected to 15% oxygen and as ppmvd of $NO_X$ (uncorrected). The CEMS shall be used to demonstrate compliance with the CEMS emission standards for CO and $NO_X$ 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. Upon request by the Department, the CEMS emission rates shall be corrected to ISO conditions.

- *Valid Hour*: Hourly average values shall begin at the top of each hour. 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. Notwithstanding this requirement, an hourly value shall be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant of an hour). If less than two such data points are available, the hourly average value is not valid. An hour in which any oil is fired is attributed towards compliance with the permit standards for oil firing. The permittee shall use all valid measurements or data points collected during an hour to calculate the hourly average values.

- *24-hour Block Averages*: A 24-hour block shall begin at midnight of each operating day and shall be calculated from 24 consecutive hourly average emission rate values. If a unit operates less than



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24 hours during the block, the 24-hour block average shall be the average of all available valid hourly average emission rate values for the 24-hour block. For purposes of determining compliance with the 24-hour CEMS standards, the missing data substitution methodology of 40 CFR Part 75, subpart D, shall not be utilized. Instead, the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block. [Rule 62-212.400(BACT), F.A.C.]

- *Data Exclusion:* Each CEMS shall monitor and record emissions during all operations including episodes of startup, shutdown, malfunction, fuel switches and ~~D~~ ULN tuning. Some of the CEMS emissions data recorded during these episodes may be excluded from the corresponding CO CEMS compliance demonstration subject to the provisions of Condition Nos. 25 and 26 of this section. All periods of data excluded shall be consecutive for each such episode and only data obtained during the described episodes (startup, shutdown, malfunction, fuel switches, ~~D~~ ULN tuning) may be used for the appropriate exclusion periods. The permittee shall minimize the duration of data excluded for such episodes to the extent practicable. Data recorded during such episodes shall not be excluded if the episode was caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented. Best operational practices shall be used to minimize hourly emissions that occur during such episodes. Emissions of any quantity or duration that occur entirely or in part from poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented, shall be prohibited.

- *Availability*: Monitor availability for the CEMS shall be 95% or greater in any calendar quarter. The quarterly excess emissions report shall be used to demonstrate monitor availability. 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. 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.

[Application No. 1030011-019-AC; Permits 1030011-010-AC & 1030011-012-AC; Rules 62-4.070(3) and 62-212.400(12), F.A.C.; 40 CFR 75]

**11.** Subsection III. A. Specific Condition 36 – Fuel Sulfur Records

This condition is revised to include the ultra-low sulfur fuel analysis method ASTM D7039-07.

36. Fuel Sulfur Records: The permittee shall demonstrate compliance with the fuel sulfur limits specified in this permit by maintaining the following records of the sulfur contents.

a. *Natural Gas Sulfur Limit*: Compliance with the fuel sulfur limit for natural gas shall be demonstrated by keeping reports obtained from the vendor indicating the average sulfur content of the natural gas being supplied from the pipeline for each month of operation. Methods for determining the sulfur content of the natural gas shall be ASTM methods D4084-82, D4468-85, D5504-01, D6228-98 and D6667-01, D3246-81. More recent versions of these methods or other Department approved methods may be used.

b. *Distillate Fuel Oil Sulfur Limit*: Compliance with the distillate fuel oil sulfur limit shall be demonstrated by taking a sample, analyzing the sample for fuel sulfur, and reporting the results to each Compliance Authority before initial startup. Sampling the fuel oil sulfur content shall be conducted in accordance with ASTM D4057-88, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, and one of the following test methods for sulfur in petroleum products: ASTM methods D5453-00, D129-91, D1552-90, D2622-94, ~~or~~ D4294-90 or D7039-07. More recent versions of these methods or other Department approved methods may be used. For each subsequent fuel delivery, the permittee shall maintain a permanent file of the certified fuel sulfur analysis from the fuel vendor or other fuel sulfur analysis performed on each delivery. At the request of a

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Compliance Authority, the permittee shall perform additional sampling and analysis for the fuel sulfur content.

The above methods shall be used to determine the fuel sulfur content in conjunction with the provisions of 40 CFR 75 Appendix D. [Application No. 1030011-019-AC; Permits 1030011-010-AC & 1030011-012-AC; Rules 62-4.070(3) and 62-4.160(15), F.A.C.]

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## B. Storage Tanks

This Section of the permit is deleted and the fuel oil storage tanks information is transferred to Title V Appendix I, Insignificant Units. The tanks do not have any unit specific applicable requirements or the potential to emit more than 5 tons per year of VOC. These units are considered insignificant activities.

~~This section of the permit addresses the following emissions units.~~

| ~~ID~~ | ~~Emission Unit Description~~ |
|---|---|
| ~~045~~ | ~~Two Nominal 3.5 million gallon distillate fuel oil storage tanks~~ |

~~**APPLICABLE STANDARDS AND REGULATIONS**~~

1. ~~PSD and BACT Applicability: The Rules for the Prevention of Significant Deterioration (PSD) of Air Quality apply to this project and require BACT determinations for volatile organic compounds (VOC) for these emissions units.~~

~~**NSPS APPLICABILITY**~~

2. ~~NSPS Subpart Kb Applicability: The distillate fuel oil tanks are not subject to Subpart Kb, which applies to any storage tank with a capacity greater than or equal to 10,300 gallons (40 cubic meters) that is used to store volatile organic liquids for which construction, reconstruction, or modification is commenced after July 23, 1984. Tanks with a capacity greater than or equal to 40,000 gallons (151 cubic meters) storing a liquid with a maximum true vapor pressure less than 3.5 kPa are exempt from the General Provisions (40 CFR 60, Subpart A) and from the provisions of NSPS Subpart Kb. [40 CFR 60.110b(a) and (c); Rule 62-204.800(7)(b), F.A.C.]~~

~~**EQUIPMENT, CAPACITIES AND USAGE**~~

3. ~~Equipment: The permittee is authorized to install, operate, and maintain two 3.5 million gallon distillate fuel oil storage tank designed to provide low sulfur fuel oil to the gas turbines. [Applicant Request; Rule 62-210.200(PTE), F.A.C.]~~

4. ~~Hours of Operation: The hours of operation are not restricted (8760 hours per year). [Applicant Request and Rule 62-210.200(PTE), F.A.C.]~~

~~**NOTIFICATION, REPORTING AND RECORDS**~~

5. ~~Oil Tank Records: The permittee shall keep readily accessible records showing the dimension of each storage vessel and an analysis showing the capacity of each storage tank. Records shall be retained for the life of the facility. The permittee shall also keep records sufficient to determine the annual throughput of distillate fuel oil for each storage tank for use in the Annual Operating Report. [Rule 62-4.070(3) F.A.C]~~

6. ~~Fuel Oil Records: The permittee shall keep readily accessible records showing the maximum true vapor pressure of the stored liquid. The maximum true vapor pressure shall be less than 3.5 kPa. Compliance with this condition may be demonstrated by using the information from the respective Material Safety Data Sheets (MSDS) for the low sulfur fuel oil stored in the tanks. [Rule 62-4.070(3) and 62-212.400, F.A.C.]~~

## C. Emergency Diesel Fire Pump

This section of the permit addresses the following emissions unit.

| ID | Emission Unit Description |
|---|---|
| 046 | One nominal 300-hp emergency diesel fire pump engine and 500 gallon fuel oil storage tank. |

**MODIFIED PERMIT CONDITIONS**

**1.** Subsection III. D. Specific Condition 4 – Hours of Operation

This condition is revised to include the ASTM method for the low sulfur oil and to update the non emergency hours of operation (100 TPY) for maintenance testing, this pursuant to provision of 40 CFR Part 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engine.

4. Hours of Operation: The fire pump may operate in response to emergency conditions and ~~40~~ 100 non-emergency hours per year for maintenance testing.
[Applicant Request, Application No. 1030011-019-AC; Permits 1030011-010-AC & 1030011-012-AC; Rule 62-210.200 (PTE), F.A.C.

**2.** Subsection III. D. Specific Condition 5 – Authorized Fuel

This condition is revised to include the ultra-low sulfur fuel analysis method ASTM D7039-07.

5. Authorized Fuel: This unit shall fire low sulfur fuel oil (or superior fuel), which shall contain no more than ~~0.05%~~ 0.0015% sulfur by weight. [Rules 62-210.200(PTE) and 62-212.400 (BACT), F.A.C.]

Compliance with the distillate fuel oil sulfur limit shall be demonstrated by taking a sample, analyzing the sample for fuel sulfur, and reporting the results to each Compliance Authority before initial startup. Sampling the fuel oil sulfur content shall be conducted in accordance with ASTM D4057-88, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, and one of the following test methods for sulfur in petroleum products: ASTM methods D5453-00, D129-91, D1552-90, D2622-94, ~~or~~ D4294-90 or D7039-07. More recent versions of these methods or other Department approved methods may be used. For each subsequent fuel delivery, the permittee shall maintain a permanent file of the certified fuel sulfur analysis from the fuel vendor. At the request of a Compliance Authority, the permittee shall perform additional sampling and analysis for the fuel sulfur content.

[Application No. 1030011-019-AC; Permits 1030011-010-AC & 1030011-012-AC]

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